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#### UNIVERSIDAD DE CONCEPCION-CHILE

"Los infinitos seres naturales no podrán perfectamente conocerse, sino luego que los sabios del país hagan un especial estudio de ellos".

CLAUDIO GAY, Hist. Chile, Zool. 1:14(1847)

Portada: Galeopsis tetrahit L., planta advena de Chile

ESTA REVISTA SE TERMINO DE IMPRIMIR EN LOS TALLERES DE EDITORA ANIBAL PINTO, S.A., MAIPU 769, CONCEPCION-CHILE. EN EL MES DE ABRIL DE 1991. LA QUE SOLO ACTUA COMO IMPRESORA PARA EDICIONES UNIVERSIDAD DE CONCEPCION

## CAREX ANDINA PHILIPPI (CYPERACEAE): ITS TAXONOMY, DISTRIBUTION, AND LECTOTYPIFICATION

## CAREX ANDINA PHILIPPI (CYPERACEAE): SU TAXONOMIA, DISTRIBUCION Y LECTOTIPIFICACION

Gerald A. Wheeler\* and Mélica Muñoz-Schick\*\*

#### ABSTRACT

Carex andina occurs in Central Chile and the northwestern part of Argentine Patagonia, where it grows on dry and rocky slopes at elevations of about 1200-3300 m. Reports of this species from southern Patagonia are based on misidentified specimens. Morphological differences between C. andina and C. setifolia are discussed. The salient features of C. andina are: perigynia obovate, essentially beakless; achenes obovate; rachilla relatively broad, lanceolate, 1/3 to 3/4 the length of the achene; and leaf sheaths with the ventral band smooth at the mouth. A lectotype is chosen for C. andina.

KEYWORDS: Carex andina, Cyperaceae, southern South America, lectotype.

#### RESUMEN

Carex Andina se encuentra en Chile central y en la región noroeste de la Patagonia argentina, donde crece en laderas secas y rocosas entre 1200-3300 m. Citas de esta especie para el sur de la Patagonia están basadas en especímenes mal identificados. Se discuten las diferencias morfológicas entre C. andina y C. setifolia. Las características sobresalientes de C. andina son: periginios obovados, casi sin pico; aquenios obovados; raquilla relativamente ancha, lanceolada, de 1/3 a 3/4 del largo del aquenio; vainas foliares con la banda ventral lisa en la boca. Se elige un lectotipo para C. andina.

#### INTRODUCTION

A recent study of *Carex* L. (Cyperaceae) material from Argentina and Chile, as well as a survey of South American literature, reveals that some confusion exists regarding the distribution of *Carex andina* Philippi (sect. *Junciformes* (Boeckeler)

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Kük.) in southern South America. Examination of syntypes of *C. andina* reveals that some specimens previously reported as "*C. andina*" are actually referable to other species; also, some specimens clearly assignable to *C. andina* have erroneously been reported as other taxa (e.g., *C. setifolia* Kunze ex Kunth var. *neuquensis* Barros). Below we attempt to: (1) clarify the distribution of *C. andina* in southern South America, (2) point out salient differences in morphology between *C. andina* and *C. setifolia* (and its varieties), species which have been confused in the recent past, (3) place the name *C.* 

setifolia var. neuquensis in the synonymy of *C. andina*, (4) discuss the status of "*C. andina*" sensu Barros (1935, 1947, 1969), and (5) select a lectotype for *C. andina*.

Full citations are given near the end of this report for specimens of *Carex andina* collected in Argentina and Chile; a distribution map for *C. andina* is also provided (Fig. 1). When discussing members of the *C. setifolia* species complex, we have retained the nomenclature used by Kükenthal (1909) and Barros (1935, 1947, 1969).

#### MORPHOLOGY

Examination of syntypes of *Carex andina* (Fig. 2A-B) reveals that the perigynia are obovate and essentially beakless, the achenes obovate, and the rachilla broadly lanceolate and about 1/3 to 3/4 the length of the achene. By contrast, in *C. seti*-

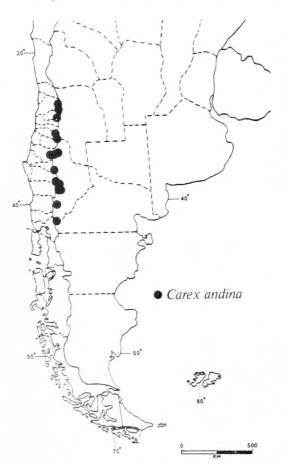


Fig. 1. Map of southern South America showing the distribution of Carex andina.

folia var. setifolia (Fig. 4A-B) the perigynia are pyriform and distinctly beaked, the achenes oblong, and the rachilla setiform and somewhat shorter than to slightly exceeding the achene. Some of the aforementioned diagnostic features of var. setifolia have been illustrated by Kunze (1840-51, Tab. 26) and Kükenthal (1909, Fig. 18: p. 84). Furthermore, an isotype of the typical variety of C. setifolia (Poeppig I. N° 26 [(BM!)) from Chile, clearly possesses these characters, although the perigynia and achenes of the BM specimen are somewhat immature. It is noteworthy that C. setifolia var. colchaguensis (Philippi) Kük. and var. pungens (Boeckeler) Kük. (sensu Kükenthal 1909) also have pyriform perigynia, oblong achenes, and a setiform rachilla. A morphological comparison of 11 characters of C. andina and C. setifolia var. setifolia is given in Table I.

#### DISCUSSION

Philippi (1896, p. 485) described Carex andina from plants collected in the Andes of central Chile, and subsequently Kükenthal (1899, 1909) recognized it as a good species. More recent workers have reported C. andina from Argentina (Barros 1935, 1947, 1969) as well as from Chile (Léveillé 1915; Marticorena and Quezada 1985). Kükenthal (1910) described a variety of C. andina, var. subabscondita Kük., from plants collected in central Patagonia (Chubut Province, Argentina), but these low-growing plants, which Wheeler (1986) considers to be conspecific with C. nelmesiana Barros, are more closely related (i.e., morphologically more similar) to the other low-growing Patagonian members of sect. Junciformes (e.g., C. argentina Barros and C. austroamericana G. Wheeler) than to C. andina, which differs by having elongated culms (up to 35 cm tall), several to many perigynia per spike, and a relatively broad rachilla.

While Philippi (1896), Kükenthal (1899, 1909), and Léveillé (1915) reported *Carex andina* only from central Chile, Barros (1935, 1947, 1969) reported it also from the western portion of Argentine Patagonia, citing specimens from Neuquén (*Castellanos s.n.* [BA-1892]and *O'Donell 2142* [LIL]), Chubut (*Gerling 215* [BAF]), and Santa Cruz (*Hogberg 42* [LP]) provinces. For

TABLE 1. A selected morphological comparison of Carex andina and C. setifolia var. setifolia in South America

Characters	C. andina	C. setifolia var. setifolia
Mouth of ventral band of leaf sheath	smooth	ciliolate
Spike shape	hemispheric to globose	ovoid
Number of female flowers/spike	10 - 40	less than 20
Perigynium shape	obovate	pyriform
Perigynium beak length (mm)	beakless (or nearly so)	0.5 - 0.8
Perigynium length (mm)	2.4 - 3.2	3 - 4.2
Rachilla shape	broadly lanceolate	setiform
Rachilla length (mm)	0.8 - 2	2.2 - 3.
Rachilla width (mm)	0.3 - 0.6	less than 0.2
Achene shape	obovate	oblong
Achene length (mm)	2.2 - 2.5	2.5 - 2.8

purposes that will become clear further below, it is also important to note here the previous reports of *C. setifolia* (s.1.) from Argentina.

Barros (1947, p. 393) reported *Carex setifolia* var. *pungens* from Neuquén Province, citing a single specimen (*Burkart 9620* [SI]) from Pino Hachado. In a later work, Barros (1969, p. 70) reported var. *setifolia* as occurring in Argentina, and, interestingly, cited the same specimens for it (*Burkart 9620*); in 1969, Barros (p. 72) wrote regarding var. *pungens*, "probablemente también en la Patagonia". Also in the same work, Barros (1969, p. 72) described a new variety of *C. setifolia*, var. *neuquensis*, from plants collected in the department of Minas in northern Neuquén Province (*Boelcke 10798* [BAB]).

However, after a thorough and careful examination of *Burkart 9620* (Fig. 3B) and *Boelcke 10798* (Fig. 3C), it is abundantly clear that each of these specimens is morphologically more similar to *C. andina* than to *C. setifolia*. Indeed, both specimens possess all of the features that characterize *C. andina* (Table 1), such as having obovate perigynia that are essentially beakless, obovate achenes, and a relatively broad, lanceolate rachilla. As such, *Burkart 9620* and *Boelcke 10798* are assignable to *C. andina*, not to *C. setifolia* (compare Fig. 3B and Fig. 3C with Figs. 2A-B and 4A-B). Although minor morphological differences do exist between the Burkart and

Boelcke specimens (e.g., culm length, perigynium size and degree of pubescence, rachilla length and width; also see Fig. 3B-C), these differences are here considered to be part of the normal variation of the species. Some of the morphological variation existing among populations of *C. andina* is illustrated in Figs. 2 and 3.

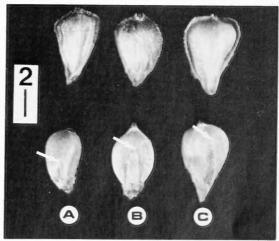


FIG. 2. Carex andina. Specimens from Chile. A. Perigynium (ventral view); achene with attached rachilla (dorsal view); from R. Philippi s.n. (SGO-37640, syntype). B. Perigynium (ventral view); achene with attached rachilla (dorsal view); from R. Philippi s.n. (SGO-46048, lectotype). C. Perigynium (ventral view); achene with attached rachilla (dorsal view); from Zöllner 5827 (NA). In A-C: perigynium above, achene with attached rachilla below; arrow points to apex of rachilla; bar equals 1 mm.

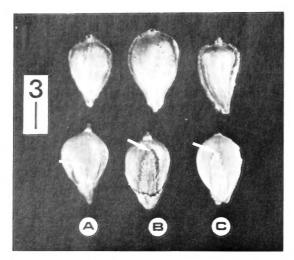


FIG. 3. Carex andina. Specimens from Argentina. A. Perigynium (ventral view); achene with attached rachilla (dorsal view); from O'Donell 2142 (LIL). B. Perigynium (ventral view); achene with attached rachilla (dorsal view); from Burkart 9620 (SI). C. Perigynium (ventral wiew); achene with attached rachilla (dorsal wiew); from Boelcke 10798 (BAB). In A-C: perigynium above, achene with attached rachilla below; arrow points to apex of rachilla; bar equals 1 mm.

From the discussion above, it is evident that Carex andina occurs in Argentina as well as in Chile. But what is "Carex andina" sensu Barros (1935, 1947, 1969)? It is clear from Barros's illustrations of "C. andina" that more than one taxon is involved. Examination of O'Donell 2142 (LIL), which was the specimen cited and illustrated for the species in 1947 (p. 394, Pl. 168), reveals that it is indeed referable to C. andina (compare Fig. 3A with Fig. 2A-B). However, the specimens illustrated for "C. andina" in 1935 (Fig. 22: p. 184; drawn from Hogberg 42 [LP]) and in 1969 (Fig. 59: p. 71; drawn from Castellanos s.n. [BA-1892]) are not referable to C. andina because the perigynia of both specimens are broadly elliptical and possess a distinct beak. Although the Hogberg and Castellanos specimens have not been seen by the authors, several other specimens examined from Argentine Patagonia (i.e., from Neuquén Province southward to Santa Cruz Province) have perigynia that are essentially identical to those described above. This undescribed taxon closely resembles C. patagonica Speg. (sect. Junciformes) and is presently under study.

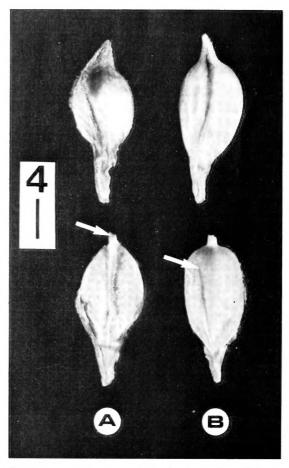


FIG. 4. Carex setifolia var. setifolia. Specimens from Chile. A. perigynium (ventral view); achene with attached rachilla (dorsal view); from *Montero 7837* (GH). B. Perigynium (ventral view); achene with attached rachilla (dorsal view); from *E. Barros 463* (GH). In A-B: perigynium above, achene with attached rachilla below; arrow points to apex of rachilla; bar equals 1 mm.

It is also important to note here that no specimen of Carex setifolia var. setifolia has been seen from Argentina. The typical variety occurs in the northern part of central Chile, particularly near the coast, and is also reported from Peru (Macbride 1936; Kükenthal 1909). It grows from near sea level to about 1800 m, where it frequents dry hillsides, washes and ravines, and sand dunes near the coast. The recognized varieties of C. setifolia (sensu Kükenthal 1909) grow at higher elevations in Chile, with at least one of them also occurring in Argentina.

#### **LECTOTYPIFICATION**

Carex andina was described from plants collected "Ad radicem Andium ocurrit prope Santiago, Chillán et alibi" (Philippi 1896, p. 485). Two specimens at the Museo Nacional de Historia Natural, Santiago, Chile (SGO), where Philippi's types are currently preserved, have labels annotated by Phillippi that read "Carex andina Ph.," SGO-37640 and SGO-46048 (Muñoz-Schick 1973). The label on the former gives "Baños de Chillán" as the locality, and the label on the latter gives "Arañas". Unfortunately, no other information is given on either label.

In selecting a lectotype, it is noteworthy that some features of SGO-37640 do not fit closelv the description for Carex andina given in the protologue. For example, Philippi (1896, p. 485) writes "bractea brevi" and "La bráctea mayor tiene a lo sumo 18 milímetros de largo", but in SGO-37640 two of the three spikes present have bracts over 40 mm long. Furthermore, Philippi described the perigynia of C. andina as "mui lampiños, pero las costas algo cilioladas", but in SGO-37640 the majority of perigynia are short pubescent between the ribs. One of the authors wrote on the specimen in 1979 that it was a doubtful type because of: "bráctea inferior mavor que en la descripción original y utrículo no tan glabro" (M. Muñoz S.IV. 1979). Therefore, in our opinion SGO-37640 is a poor candidate for lectotype.

On the contrary, we believe SGO-46048 is a candidate for lectotype of *Carex andina* because (1) the specimen matches very closely the description of the species given in the protologue and (2) the specimen was definitely examined by R. A. Philippi, as evidenced by his handwriting on the label. Although "Arañas" was not cited specifically in the protologue, it corresponds to a site "ad radicem Andium prope Santiago" (33° 14'S, 70° 28' W) from where Philippi described many species. After considering all available evidence, we select SGO-46048 as lectotype for *Carex andina*.

Carex andina Philippi.
Anales Univ. Chile 93:485. 1896.

Type: Chile [Prov. Santiago], Arañas, s.d., Philippi s.n.
(LECTOTYPE [here designated]: SGO-46048!)

#### Synonym:

Carex setifolia Kunze ex Kunth var. neuquensis Barros, Fl. Patag. II. p. 72., 1969.

Type: Argentina, prov. Neuquén, Dpto. Minas, 21 km. de Las Ovejas, camino a las lagunas Epulauquén, arroyo Las Bandurrias [1.250 m. 36° 55'S, 70° 56'W, 14 Jan 1964], *Boelcke 10798* (holotype: BAB!).

Carex andina occurs in central Chile and the northwestern part of Argentine Patagonia (Fig. 1). No specimen of this species has been seen from south of Cerro Otto (41° 09' S lat.) in Río Negro Province, Argentina, and reports of it from southern Patagonia (Barros 1935, 1969) are based on misidentified specimens. This transandean species grows primarily on dry and rocky slopes at elevations of about 1200-3300 m, and in some localities it extends to near the snowline. It seems to be of infrequent to occasional occurrence in both Argentina and Chile.

#### REPRESENTATIVE SPECIMENS

ARGENTINA. Prov. NEUQUÉN: Dpto. Minas, valle superior del Arroyo Atreucó, 36° 45'S, 70° 33'W, en pedregal y ladera seca, 2010-2050 m, 2 Feb. 1964, Boelcke 11485 (partim SI); Depto. Ñorquín, Copahue, 2000 m, 25 Dec. 1944, O'Donell 2142 (LIL); [Dpto. Picunches], Pino Hachado, 5 March 1939, Burkart 9620 (SI); Depto. Catán-Lil, Sierra del Chachil, 29 Jan. 1965, Rúgolo & Agrasar 412 (BAA); zwischen Estancia Pulmari und Lago Aluminé, 23 Dec. 1937, Kalela 1590 (S); Parque Nacional Lanín, Cerro Chapelco, ladera NW, 11 Feb. 1961, León & Calderón s.n. (BAA-845), Prov. Rio NEGRO: [Dpto. Bariloche], San Carlos de Bariloche, Cerro Otto, 1200 m, 10 Feb. 1934, Parodi 11855 (BAA).

CHILE. Prov. Santiago. Río Yeso, Laguna de los Piuquenes, 2500 m, en morrena (escaso), 13 Jan. 1945, *Biese 907* (LIL); Laguna Negra, 11000 ft., near snow, 6 Feb. 1902, *Hastings 486* (UC); Prov. O'HIGGINS: Cordillera de Colchagua, Jan. 1930, *Pirion 164* (GH). Prov. TALCA: Laguna Maule, 1500-2000 m, 4 Jan. 1972, *Zöllner 5827* (L, NA); Vilches, 500 m, 8 Jan. 1979, *Zöllner 10223* (partim CONC); El Picazo, 30 Dec. 1936, *E. Barros 467* (GH). Prov. Nuble: Baños de Chillán, s.d., *R. Philippi* s.n. (SGO-37640--syntype).

#### **ACKNOWLEDGMENTS**

This study is based on specimens from BAA, BAB, C, CONC, GH, L, LIL, MIN, NA, S, SGO, SI, and UC; to the directors and curators of those herbaria we are very grateful for the loan of specimens.

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## ORTHOGRAPHY OF SOME EPITHETS HONORING BERTERO IN THE VASCULAR FLORA OF THE JUAN FERNANDEZ ISLANDS AND CONTINENTAL CHILE

#### ORTOGRAFIA DE ALGUNOS EPITETOS EN HONOR A BERTERO EN LA FLORA VASCULAR DE LAS ISLAS DE JUAN FERNANDEZ Y CHILE CONTINENTAL

Tod F. Stuessy\* and Clodomiro Marticorena\*\*

#### **ABSTRACT**

The orthography of specific epithets commemorating Carlo Giuseppe Bertero in the vascular flora of Chile is discussed, and a list is provided of accepted names.

#### RESUMEN

Se discute la ortografía de epítetos específicos creados en conmemoración a Carlo Giuseppe Bertero en la flora vascular de Chile, y se presenta una lista de nombres aceptados.

Because Carlo Giuseppe Bertero collected one of the earliest series of plants from the Juan Fernández Islands (Skottsberg, 1922), and another important collection from Central Chile, his name is commemorated by several epithets of plants in these floras. Commemorating a collector would seem to be a routine nomenclatural exercise, except that in this case six different epithets have been used in the Chilean flora: berteri, berterianus, berterii,

berteroanus, berteroi, and berteronianus. These different usages have caused confusion. This paper attempts to reduce the confusion by (1) discussing the various latinizations that have been used to commemorate Bertero (2), recommending which forms are in best accord with the International Code of Botanical Nomenclature (ICBN; Greuter et al., 1988), and (3) providing a list of accepted names for the vascular plants of the Chilean flora.

The name, Bertero, can be latinized in four different ways: Bertero (without change from the original), Berterius (noble form), Berterus (plebian form), and Berterous (a non-Roman "latinization"). The ICBN allows specific epithets commemorating people to be either substantives in the genitive case or adjectival forms which yields eight total possible epithet forms (Table 1).

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TABLE 1. Latinization of the name "Bertero" in the formation of epithets, showing accepted forms (boldface).

	Forms o	f Epithets
Ways of Latinization of Original Name	Substantive, Genitive Case	Adjective
Bertero	berteronis	berteronianus
Berterius	berterii	berterianus
Berterous	berteroi	berteroanus
Berterus	berteri	berteranus

The genitive of Bertero is berteronis, and as an adjective berteronianus. These formations treat Bertero as a Third Declension noun, which is recommended against by the ICBN (Rec. 73C.2). Berterius becomes berterii in the genitive and berterianus as an adjective, both of which are not supported by the ICBN (Rec. 73C.3) because they change the stem vowel element and original spelling of the personal name from "o" to "i". Berterus becomes berteri in the genitive and berteranus as an adjective, both of which are also recommended against by the ICBN for the same reasons. The only acceptable epithets derive from Berterous, and these become berteroi in the genitive and berteroanus as an adjective. These are specifically listed as acceptable forms by the ICBN [Rec. 73C.I(c)]. Therefore, we view all the epithets berteri, berterii, berteronis, berteranus, berterianus and berteronianus as unacceptable forms to be corrected to berteroi or berteroanus, -a, -um without change of authorship.

Following is a list with comments of the specific names of vascular plants commemorating Bertero currently accepted in the flora of the Juan Fernández Islands and continental Chile (from Marticorena & Quezada, 1985) showing the cases in which the epithets are herein corrected:

#### Aphanes berteroana Rothm.

Aphanes berteroana Rothm., Bull. Misc. Inform. 1938: 269. 1938.

Argythamnia berteroana (Schldl.) Muell. Arg. Chiropetalum berterianum Schldl., Linnaea 26: 637. 1855. Argythamnia berteroana (Schldl.) Muell. Arg., Linnaea 34: 151. 1865.

#### Astragalus berteroi Colla ex Savi Astragalus berterii Colla ex Savi, Nuovo Gior, Lett., Sci. 24: 147, 1832.

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Peperomia berteroana Miq.

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Potamogeton berteroanus Philippi, Linnaea 30: 200, 1859.

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now been conserved against the earliest Balbisia Willd. (ICBN, Greuter et al., 1988). De Candolle's protologue (1833) did not provide a specific description but did indicate the specific name B. berterii (p. 333); "En donnant a cet arbuste le nom de Balbisia Berterii i'unis deux souvenirs chers a la science et a mon coeur". Because the genus was circumscribed by de Candolle as monotypic at that time, the generic description can be taken as a combined descriptio generico-specifica (ICBN Article 42.1). The names Balbisia and B. berterii, therefore, were validly published in 1833 by de Candolle. Decaisne (1834), de Candolle (1838) and Delessert (1840) all used these same generic and specific names. Baillon (1882) transferred B. berterii into Vendredia as V. berterii (DC.) Baillon, and Hemsley (1884), recognizing the problem of homonymy, moved the species into the monotypic genus Rhetinodendron Meisner (1839), a legitimate renaming of the later homonym Balbisia DC. A transfer of this species into Robinsonia, therefore, might retain the de Candolle epithet, berterii, but as argued above, berteroi is the better choice.

Rumohra berteroana (Colla) R. Rodríguez

Aspidium berterianum Colla, Mem. Reale
Accad. Sci. Torino 39: 42. 1837.

Rumohra berteriana (Colla) R. Rodríguez,
Bol. Soc. Biol. Concepción 45: 150. 1972.

Selkirkia berteroi (Colla) Hemsley
Cynoglossum berteri Colla, Mem. Reale
Accad. Sci. Torino 38: 132. 1835.
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Challenger, Bot. 1(3): 48. 1884.

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Verbena berteroi (Meisner) Schauer Shuttleworthia berterii Meisner (nomen), Pl. Vasc. Gen. 2: 198. 1840. Verbena berterii (Meisner) Schauer in DC., Prodr. 11: 551. 1847.

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## RYTIDOSPERMA PASCHALIS (PILGER) BAEZA, UNA NUEVA COMBINACION PARA LA FLORA AGROSTOLOGICA DE CHILE\*

## RYTIDOSPERMA PASCHALIS (PILGER) BAEZA, A NEW COMBINATION FOR THE AGROSTOLOGICAL FLORA OF CHILE

#### Marcelo Baeza P.\*\*

#### RESUMEN

Se transfiere la especie *Danthonia paschalis* Pilger (Poaceae) al género *Rytidosperma* Steud., proponiendo la nueva combinación: *Rytidosperma paschalis* (Pilger) Baeza.

#### INTRODUCCION

En 1973 Nicora rehabilitó el género *Rytidosperma* Steud. (1853-1854) sobre la base de material de *Danthonia* DC. de Argentina y Chile. Según esto, *Rytidosperma* difiere de *Danthonia*, entre otros caracteres, por el callo muy corto y por presentar en la lema haces de pelos agrupados en fascículos dispuestos transversalmente.

Danthonia paschalis Pilger (Poaceae) is transferred to Rytidosperma Steud. A new combination, Rytidosperma paschalis (Pilger) Baeza, is proposed.

KEYWORDS: Rytidosperma, Poaceae, Chile.

Estas diferencias ya habían sido visualizadas por E. Desvaux (1854: 360; 363) al considerar dos secciones para *Danthonia:* 

- I Callus (base coriácea de la palleta inferior) alargado, decurrente, envolviendo enteramente cada artículo del raquis y pareciendo constituirlo. Pelos situados sobre los bordes de la palleta.
- II Callus (base coriácea de la palleta inferior) muy corto, artículos del raquis de la flor visibles. Pelos dispuestos por series circulares.

De esta manera, Nicora (1973) concluyó que las especies de *Danthonia* que presentan las características de la sección II deben agruparse en el género *Rytidosperma*, y cita para nuestro país cuatro especies de este género. El examen de material de herbario de *Danthonia paschalis* (M.

ABSTRACT

<sup>\*</sup>Estudio financiado por DFG (Deutsche Forschungsgemeinschaft).

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Etienne s.n.) demuestra que los caracteres del callo, lema y lodículas corresponden perfectamente al género *Rytidosperma*, por lo cual se propone la siguiente nueva combinación:

Rytidosperma paschalis (Pilger) Baeza, comb.

Basiónimo: *Danthonia paschalis* Pilger *in* Skottsberg. Nat. Hist. J. Fernandez and Easter Island 2: 67, lám. 1, d-h. 1922. Typus: C. & I. SKOTTS-BERG 658, Isla de Pascua, on the slope of Mt. Katiki (B).

Icones: Etienne & Faúndez, Ci. Agric. (Univ. Chile) 12: 25. 1983.

Planta perenne, con tallos de 10 cm de alto, pubescentes: glumas subiguales, glabras, verde claras, notoriamente venosas; callo piloso, corto: lema membranácea. aristada, bilobada, verde brillante, con fascículos pilosos en la base y un fascículo de pelos largos a ambos lados de los bordes involutados, en la parte media; pálea membranácea: lodículas dos, con pelos largos que nacen del borde superior.

#### DISTRIBUCION

Especie endémica de Isla de Pascua. Fue encontrada en una sola oportunidad por Skottsberg en 1917 en el Monte Katiki. Posteriormente, Etienne la colectó en tres lugares en el interior del cráter del volcán Rano Kao.

#### MATERIAL ESTUDIADO

Isla de Pascua. Abhang des Katiki, 16-VI-1917, C. & I. Skottsberg 658 (Fototypus-CONC); Isla de Pascua. Rano Kao (interior del cráter), 200 m s.m., VI-1981, M. Etienne s.n. (CONC); Isla de Pascua. Volcán Rano Kao, 2-V-1988, G. Zizka 490 (SGO).

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## CONTRIBUCION A LA ESTADISTICA DE LA FLORA VASCULAR DE CHILE

## CONTRIBUTION TO THE STATISTICS OF THE VASCULAR FLORA OF CHILE

#### Clodomiro Marticorena\*

#### RESUMEN

Se da a conocer diversa información sobre las floras vasculares de Chile continental, Archipiélago de Juan Fernández. Islas Desventuradas e Isla de Pascua. Para cada flora se indica en forma tabulada el número de familias de cada división o clase, número de especies y de taxa infraespecíficos, número de endémicas, nativas y adventicias, porcentaje de cada familia dentro de cada división o clase y en el total de la flora, porcentaje de cada género dentro de cada familia y de cada división o clase, resúmenes numéricos de la flora de cada territorio, familias y géneros endémicos, y familias y géneros de mayor tamaño.

#### ABSTRACT

Varied information on the vascular floras of continental Chile, Archipelago of Juan Fernández, Islas Desventuradas, and Easter Island is presented. For each flora the number of families in each division or class is given. Also, the number of species and infraspecific taxa, number and percentage of endemics, natives and adventives is summarized. Finally, percentage of each family within each division or class and in the whole flora, percentage of each genus within each family, division or class, numeric summaries of the flora of each territory, endemic families and genera, and largest families and genera are tabulated.

KEYWORDS: Flora of Chile, flora of Juan Fernández, flora of Islas Desventuradas, flora of Easter Island, endemics, natives, adventives.

#### INTRODUCCION

Tal como estaba previsto, inmediatamente después de la publicación del Catálogo de la flora vascular de Chile (Marticorena y Quezada, Gayana, Bot. 41(1-2):1-157. 1985) comenzaron a

aparecer nuevos cambios en la taxonomía de las plantas chilenas, al mismo tiempo que se observó la necesidad de hacer diversas correcciones. Para iniciar una reactualización, en un principio se creó un archivo en un procesador de palabras, en el que se fueron haciendo periódicamente las adiciones y correcciones; al poco tiempo se hizo evidente que este método no era práctico y se decidió crear una nueva versión del Catálogo que pudiera ser actualizada en forma más eficiente. Para esto se crearon varios archivos en un microcomputador, usando una de las bases de datos comerciales de amplio uso.

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La versión original del Catálogo presenta a las plantas de Chile como una unidad en la que están mezcladas las plantas de Chile continental e insular. En la nueva versión las plantas se han separado en cuatro archivos correspondientes a Chile continental, Archipiélago de Juan Fernández. Islas Desventuradas e Isla de Pascua. En cada archivo a cada especie o taxón infraespecífico se ha agregado la condición (endémica, nativa, adventicia), y su presencia o ausencia en los otros tres territorios. Esta nueva estructura permite hacer rápidas comparaciones entre las floras, conocer qué géneros y/o especies son compartidas entre los territorios, número y porcentaje de familias, géneros y especies, número y porcentaje de endémicas, nativas y adventicias, combinaciones de estas condiciones, y extraer mucha otra información.

Es poco probable que la nueva versión sea publicada en un futuro cercano, pero se publica ahora la información numérica, considerando que puede ser de utilidad.

A partir de los cuatro archivos básicos se ha generado, para cada territorio, otro archivo de géneros, que contiene la familia, número total de taxa específicos e infraespecíficos, de especies, de taxa infraespecíficos, de endémicas, de nativas y de adventicias. A su vez, de estos archivos se han generado los que se incluyen en este trabajo. Cuando en un género sólo existe un taxón y éste es de rango infraespecífico, se ha contado como especie.

La suma de los taxa de Chile continental (CC), Juan Fernández (JF), Islas Desventuradas (ID) e Isla de Pascua (IP) no representa el total de todas las plantas de la flora de Chile, ya que muchas especies son compartidas entre estos cuatro territorios. El número de especies compartidas es el siguiente:

	(())	CID	CCTP	JF ID	JF IP	ID IP
PTERI	31	0	1	0	0	0
DICOT	145	12	38	8	22	3
MONOC	50	1	16	0	4	0
Total	226	13	55	8	26	3

En muchos casos la mayoría de estas especies son adventicias en ambos territorios, salvo en las Pteridophyta compartidas entre Chile continental y Juan Fernández, en que la mayoría son nativas. Cuando se trata de separar el número en nativas y adventicias, puede suceder que no haya coincidencia entre el número de uno y otro territorio; esto se debe a que algunas especies endémicas en un territorio pueden ser adventicias en otro (p. ej. *Lardizabala biternata* es endémica en Chile continental y adventicia en Juan Fernández).

El número real de especies más taxa infraespecíficos de la flora total de Chile es el siguiente:

	NT	%
PTERI	167	2.80
GYMNO	16	0.27
DICOT	4569	76.52
MONOC	1219	20.42
Total	5971	100.00

Los archivos son modificados constantemente, a medida que va apareciendo nueva información. Para algunas especies, en su mayoría *Cyperaceae*, *Gramineae* y *Juncaceae*, ha sido especialmente difícil determinar si son nativas o adventicias y éste es un punto que puede sufrir algunos cambios.

En las listas se han usado las siguientes abreviaturas:

NG: Número de géneros.

GE: Número de géneros endémicos.

NT: Número de taxa (NS + NI; EN + NA + AD).

NS: Número de especies.

NI: Número de taxa infraespecíficos.

EN: Número de endémicas.

NA: Número de nativas (crecen también en otros países).

AD: Número de adventicias.

% D: En las listas de familias, porcentaje que ocupa la familia dentro de la división o clase; por ejemplo, Adiantaceae ocupa el 20.16% de Pteridophyta. En las listas de géneros, porcentaje que ocupa el género dentro de la división o clase; por ejemplo, Adiantum ocupa el 6.45% de Pteridophyta.

%F: En las listas de familias, porcentaje que ocupa la familia dentro de la flora del territorio; ejemplo, Adiantaceae ocupa el 0.44% de la flora de Chile continental. En las listas de géneros, porcentaje que ocupa el género dentro de la familia; por ejemplo, Adiantum ocupa el 32% de Adiantaceae. En los resúmenes, porcentaje que ocupa la división o clase dentro de la flora del territorio; por ejemplo, Pteridophyta ocupa el 2.16% de la flora de Chile continental.

(E): Familia o género endémico.

 (e): Género endêmico en la flora total de Chile, pero presente en dos territorios; no contabilizado en los resúmenes.

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#### ESTADISTICA DE LA FLORA VASCULAR DE CHILE CONTINENTAL: FAMILIAS

#### PTERIDOPHYTA

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
ADIANT	7	0	25	24	1	5	19	- 1	20.16	0.44
ASPLEN	2	0	8	8	0	1	7	0	6.45	0.14
BLECHN	1	0	10	10	0	4	6	0	8.06	0.17
DENNST	3	0	3	3	0	0	3	0	2.42	0.05
DRYOPT	7	0	16	1.3	3	4	11	1	12.90	0.28
EQUISE	1	0	2	2	0	0	2	0	1.61	0.03
GLEICH	- 1	()	5	4	}	2	3	0	4.03	0.09
HYMENO	4	0	25	21	4	0	25	0	20.16	0.44
ISOETA	- 1	0	1	1	0	0	1	0	0.81	0.02
LOPHOS	- 1	0	1	1	0	()	1	0	0.81	0.02
LYCOPO	2	0	7	7	0	1	6	0	5.65	0.12
MARSIL	2	0	2	2	0	0	2	0	1.61	0.03
OPHIOG	2	0	6	6	()	- 1	5	0	4.84	0.10
POLYPO	3	0	8	7	1	1	7	0	6.45	0.14
SALVIN	2	0	2	2	0	0	1	1	1.61	0.03
SCHIZA	1	()	1	- 1	0	0	1	()	0.81	0.02
SELAGI	1	0	1	1	0	0	0	1	0.81	0.02
THELYP	1	0	1	i	0	0	1	0	0.81	0.02
Total	42	0	124	114	10	19	101	4	100.00	2.16

#### GYMNOSPERMAE

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	% F
ARAUCA		0	1	1	0	0	1	0	6.25	0.02
CUPRES	3	0	3	3	0	0	3	0	18.75	0.05
EPHEDR	1	0	7	7	0	2	5	0	43.75	0.12
PODOCA	4	1	5	5	0	3	2	0	31.25	0.09
Total	9	1	16	16	0	5	11	0	100.00	0.28

#### DICOTYLEDONEAE

FAM	NG (	GE	NT	NS	NI	EN	NA	ΑĐ	%D	% F
ACANTH	2	0	2	2	0	1		0	0.05	0.03
AEXTOX	1	0	1	1	0	0	1	0	0.02	0.02
AIZOAC	3	0	13	12	1	6	5	2	0.29	0.23

FAM	NG	GE	NT	NS	NI	EN	NA	ΑD	%D	%F
AMARAN	3	0	9	9	0	2	4	3	0.20	0.16
ANACAR	3	()	14	11	3	7	7	0	0.32	0.24
APOCYN	3	0	4	4	0	1	1	2	0.09	0.07
ARALIA	1	0	2	2	()	1	1	()	0.05	0.03
ARISTO ASCLEP	1 7	0	2	2	0		0	0	0.05	0.03
BALANO	j	0	17	16	1	14	2	1	0.39	0.30
BERBER	1	0	1 52	47	0	37	1	0	0.02	0.02
BETULA	1	0	1	47	0		15	0	1.18	0.91
BIGNON	4	0	15	14	1	9	6	0	0.02	0.02
BORAGI	14	0	116	112	4	69	29	18	2.63	2.02
BUDDLE	1	0	2	2	0	1	1	0	0.05	0.03
CACTAC	21	2	250	154	96	236	14	0	5.66	4.36
CAESAL	5	1	27	23	4	14	11	2	0.61	0.47
CALLIT	1	0	5	5	0	0	5	0	0.11	0.09
CALYCE	5	0	49	34	15	15	34	0	1.11	0.85
CAMPAN	8	1	32	18	14	24	8	0	0.72	0.56
CAPPAR	1	0	2	1	- 1	- 1	}	0	0.05	0.03
CAPRIF CARICA	1	0	1	1	0	0	0	1	0.02	0.02
CARYOP	1 26	0	103	1	0	1	0	0	0.02	0.02
CELAST	1	0	103	92 4	11	36 0	40	27	2.33	1.79
CERATO	1	0	1	1	0	0	1	0	0.09	0 07
CHENOP	7	0	56	54	2	14	26	16	0.02	0.02
COMPOS	153	9	1033	927	106	441	502	90	23.40	18 00
CONVOL	6	0	18	13	5	1	13	4	0.41	0.31
CORIAR	1	0	1	1	0	0	1	0	0.02	0.02
CORNAC	- 1	0	4	4	0	3	1	0	0.09	0.07
CRASSU	2	0	8	8	0	2	5	1	0.18	0.14
CRUCIF	40	3	222	191	31	93	97	32	5.03	3.87
CUCURB	1	0	1	1	0	0	]	()	0.02	0.02
CUNONI	2	0	2	2	0	0	2	0	0.05	0.03
CUSCUT DESFON	1	0	11	10	1	2	9	0	0.25	0.19
DIPSAC	1	0	1	1 3	0	0	1	0	0.02	0.02
DONATI	1	0	1	1	0	0	0	3	0.07	0.05
DROSER	i	0	1	1	0	0	1	0	0.02	0.02
ELAEOC	2	0	3	3	0	2	1	0	0.02	0.05
ELATIN	1	0	1	ſ	0	0	1	0	0.02	0.02
EMPETR	1	0	1	1	0	()	1	0	0.02	0.02
EPACRI	1	0	1	- 1	0	0	1	0	0.02	0.02
EREMOL	2	0	2	2	0	2	0	0	0.05	0.03
ERICAC	2	0	16	10	6	2	14	0	0.36	0.28
EUCRYP	1	0	2	2	0	1	1	0	0.05	0.03
EUPHOR FAGACE	9	2	45	43	2	25	8	12	1.02	0.78
FLACOU	1 2	0	11	10	0	5 6	6	0	0.25	0.19
FRANKE	1	0	4	4	0	1	3	0	0.20	0.16
FUMARI	1	0	4	4	0	0	0	4	0.09	0.07
GENTIA	4	()	1.3	13	0	6	5	2	0.29	0.23
GERANI	2	0	28	26	2	12	5	П	0.63	0.49
GESNER	3		3	3	0	1	2	0	0.07	0.05
GOMORT (E)	1	1	- 1	1	0	1	0	0	0.02	0.02
GOODEN	1	0	1	1	0	0	1	0	0.02	0.02
GUNNER	}	0	7	7	0	4	3	0	0.16	0.12
GUTTIF	1	0	5	5	0	1	1	3	0.11	0.09
HALORA	1	0	2	2	0	0	2	0	0.05	0.03
HIPPUR HYDRAN	1	0	1	1	0	0	1	0	0.02	0.02
HYDROP	2	0	1 8	8	0	0	7	0	0.02	0.02
ICACIN	1	0	8	8	0	1	0	0	0.18	0.14
KRAMER	1	0	2	2	0	1	1	0	0.02	0.02
LABIAT	15	0	40	40	0	18	10	12	0.03	0.70
LARDIZ	2	1	2	2	0	1	1	0	0.05	0.03
LAURAC	3	0	5	5	0	4	1	0	0.11	0.09
LEDOCA	2	0	4	4	0	3	1	0	0.09	0.07

FAM	NG	GE	E NT	NS	S NI	EN	NA	ΑD	%D	% F
LENTIB	2	. 0	3	3	0	0	3	0	0.07	0.05
LINACE	2	()	9	8		5	2	2	0.20	0.16
LOASAC	4	1	78	67	11	52	26	0	1.77	1.36
LORANT	4	2	6	6	0	3	3	0	0.14	0.10
LYTHRA	3	0	11	8	3	6	0	5	0.25	0.19
MALESH	1	()	25	18	7	24	1	0	0.57	0.44
MALPIG	2	2	2	2	0	2	0	0	0.05	0.03
MALVAC	16	()	132	126		77	44	11	2.99	2.30
MIMOSA	3	0	15	15		3	5	7	0.34	0.26
MISODE	1	0	9	8	1	1	8	0	0.20	0.16
MOLLUG	2	0	2	2	0	0 2	1	1	0.05	0.03
MONIMI MYRICA	3	1 ()	3	1	0	0	1	0	0.07	0.03
MYRTAC	9	1	24	23	1	15	9	0	0.54	0.42
NOLANA	2	1	43	43	0	40	3	0	0.97	0.75
NYCTAG	3	0	7	7	0	1	6	0	0.16	0.12
NYMPHA	1	0	1	1	0	0	0	1	0.02	0.02
OLEACE	1	0	1	1	0	0	i	0	0.02	0.02
ONAGRA	8	0	44	40	4	8	31	5	1.00	0.77
OROBAN	1	0	4	4	0	1	1	2	0.09	0.07
OXALID	1	0	128	119	9	88	38	2	2.90	2.23
PAPAVE	3	0	6	6	()	3	1	2	0.14	0.10
PAPILI	29	0	321	309	12	152	107	62	7.27	5.59
PASSIF	1	0	2	2	0	0	1	1	0.05	0.03
PHYTOL	3	2	5	5	0	4	1	0	0.11	0.09
PIPERA PLANTA	1	0	4	4	0	3	1 17	0	0.09	0.07
PLUMBA	2	0	27 4	23 4	4	6	2	0	0.61	0.47
POLEMO	7	0	11	11	0	2	9	0	0.09	0.19
POLYGA	2	0	12	12	0	9	3	0	0.27	0.21
POLYGO	9	0	62	57	5	34	9	19	1.40	1.08
PORTUL	6	0	78	73	5	46	31	1	1.77	1.36
PRIMUL	6	0	14	11	3	2	10	2	0.32	0.24
PROTEA	4	0	6	6	0	1	5	0	0.14	0.10
RAFFLE	1	0	1	1	0	0	1	0	0.02	0.02
RANUNC	8	0	47	42	5	4	36	7	1.06	0.82
RESEDA	1	0	1	1	0	0	0	1	0.02	0.02
RHAMNA	7	- 1	17	16	1	10	7	0	0.39	0.30
ROSACE	15	0	55	51	4	11	31	13	1.25	0.96
RUBIAC	9	0	44	39	5	18	19	7	1.00	0.77
RUTACE	2	1	3	3	0	1	0	2	0 07	0.05
SALICA SANTAL	2	0	22	3	0	0	1	2	0.07	0.05
SAPIND	4	1	4	21	0	14	8	0	0.50	0.38
SAPOTA	1	0	1	1	0	1	0	0	0.09	0.07
SAXIFR	11	3	51	37	14	26	24	1	1.16	0.02
SCROPH	30	0	182	161	21	95	63	24	4.12	3.17
SIMARO	1	0	1	1	0	0	0	1	0.02	0.02
SOLANA	25	3	157	135	22	67	78	12	3.56	2.74
STERCU	- 1	()	1	1	()	-0	0	1	0.02	0.02
STYLID	1	0	1	1	()	0	1	0	0.02	0.02
TETRAC	1	()	1	1	()	()	1	0	0.02	0.02
THYMEL	-	()	3	3	0	1	2	0	0.07	0.05
TROPAE	1	()	18	18	()	15	2	1	0.41	0.31
UMBELL	33	l	108	106	2	41	52	15	2.45	1.88
URTICA	4	0	16	13	3	3	10	3	0.36	0.28
VALERI VERBEN	4 12	0	47	47	0	30	15	2	1 06	0.82
VIOLAC	2	()	98 101	82 74	16 27	42 70	51	5	2.22	1.71
VITACE	1	0	101	1	- ()	0	28 1	3	0.02	1.76 0.02
VIVIAN	3	2	5	5	0	4	1	0	0.11	0.02
WINTER	1	0	3	1	2	0	3	0	0.07	0.05
ZYGOPH	7	2	П	10	1	5	5	1	0.25	0.19
Total	743	46	4414	3906	508	2182	1756	476	100.00	76.93

#### MONOCOTYLEDONEAE

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
ALISMA	2	0	2	2	0	1	1	0	0.17	0.03
AMARYL	10	3	92	81	11	80	12	0	7.76	1.60
APONOG	1	0	1	1	0	0	0	1	0.08	0.02
ARACEA	1	0	1	- 1	0	0	0	1	0.08	0.02
BROMEL	6	1	25	21	4	21	4	0	2.11	0.44
CENTRO	1	0	1	1	0	0	1	0	0.08	0.02
COMMEL	1	0	1	1	0	0	0	1	0.08	0.02
CORSIA	1	0	1	1	0	0	1	0	0.08	0.02
CYPERA	10	0	175	138	37	32	129	14	14.77	3.05
DIOSCO	2	1	49	44	5	48	1	0	4.14	0.85
GRAMIN	109	1	595	561	34	131	313	151	50.21	10.37
HYDROC	3	0	4	4	0	0	1	3	0.34	0.07
IRIDAC	11	i	38	29	9	18	19	1	3.21	0.66
JUNCAC	7	0	53	42	11	7	46	0	4.47	0.92
JUNCAG	2	0	4	4	0	0	4	0	0.34	0.07
LEMNAC	3	0	6	6	0	0	6	0	0.51	0.10
LILAEA	1	0	1	1	0	0	1	0	0.08	0.02
LILIAC	21	8	50	47	3	38	9	3	4.22	0.87
LIMNOC	i	0	1	1	0	0	0	1	0.08	0.02
ORCHID	7	0	47	46	1	27	20	0	3.97	0.82
PALMAE	1	1	1	1	0	1	0	0	0.08	0.02
PHILES	3	1	5	5	0	2	3	ò	0.42	0.09
PONTED	1	0	1	1	0	0	0	1	0.08	0.02
POTAMO	1	0	9	9	0	1	8	0	0.76	0.16
RESTIO	1	0	1	1	0	1	0	0	0.08	0.02
RUPPIA	1	0	2	2	0	1	1	0	0.17	0.03
TECOPH	3	3	15	14	1	15	0	0	1.27	0.26
TYPHAC	]	0	2	2	0	0	2	0	0.17	0.03
ZANNIC	1	0	1	1	0	0	1	0	0.08	0.02
ZOSTER	1	0	1	1	0	0	1	0	0.08	0.02
Total	214	20	1185	1069	116	424	584	177	100.00	20.66

## ESTADISTICA DE LA FLORA DE CHILE CONTINENTAL

#### PTERIDOPHYTA: FAMILIAS, GENEROS Y ESPECIES

	NT	NS	NI	EN	NA	AD	%F	%D
ADIANTACEAE			-					
Adiantum	8	7	1	4	3	1	32.00	6.45
Cheilanthes	9	9	0	0	9	0	36.00	7.26
Cryptogramma	1	1	0	0	1	0	4.00	0.81
Notholaena	2	2	0	0	2	0	8.00	1.61
Pellaea	2	2	0	1	1	0	8.00	1.61
Pteris	2	2	0	0	2	0	8.00	1.61
Trismena	1	l	0	0	1	0	4.00	0.81
Subtotal	25	24	1	5	19	l	100.00	20.16
ASPLENIACEAE								
Asplenium	7	7	()	1	6	0	87.50	5.65
Pleurosorus	1	1	()	0	1	0	12.50	0.81
Subtotal	8	8	0	l	7	0	100.00	6.46
BLECHNACEAE								
Blechnum	10	10	()	4	6	0	100.00	8.06
Subtotal	10	10	()	4	6	()	100.00	8 06

	NT	NS	NI	EN	NA	ΑĐ	% F:	%D		NT	NS	NI	EN	NA	ΑD	Ø, F	% D
									POLYPODIACEAE								
DENNSTAEDTIACE	AE								Grammitis	3	3	()	0	3	0	37.50	2.42
Dennstaedtia	1	- 1	0	0	1	()	33.33	0.81	Pleopeltis	ı	ĺ	0	0	1	0	12.50	0.81
Histiopteris	1	1	0	()	1	()	33.33	0.81	Polypodium	4	3	1	1	3	0		
Hypolepis	1	1	0	()	1	()	33.33	0.81	rotypodium	4	3	1	1	3	U	50 00	3.23
6.1									Subtotal	8	7	1	1	7	()	100 00	6.46
Subtotal	3	3	0	0	3	0	100.00	2.43									
DRYOPTERIDACEA	E								SALVINIACEAE Azolla	1	1	()	0	1	0	50 00	0.81
Cystopteris	1	1	()	0	1	0	6.25	0.81	Salvinia	1	i	()	0		1		
Dryopteris	1	1	0	0	0	1	6.25	0.81	Jaivina	'	1	U	U	U	1	50 00	0.81
Elaphoglossum	3	3	0	1	2	0	18.75		Subtotal	2							
Megalastrum	2	1	1	2	0	0	12.50		Subtotal	2	2	0	()	1	1	100 00	1.62
Polystichum	7	5	2	E	6	0	43.75		CONTRACTOR								
Rumohra	i	1	0	0	i	0	6.25	0.81	SCHIZAEACEAE								
Woodsia	1	1	0	0	1	0	6.25		Schizaea	1	1	-0	()	1	()	100 00	0.81
									Subtotal	1	1	0	0	1	()	100 00	0.81
Subtotal	16	13	3	4	11	1	100.00	12.92						•		100 00	001
									SELAGINELLACEAE								
EQUISETACEAE									Selaginella	1	1	0	0	0	1	100 00	0.81
Equisetum	2	2	0	0	2	0	100.00	1.61									
Cubraral	2	2	0	0	2	0	100.00	1 (1	Subtotal	1	1	0	0	0	1	100 00	0.81
Subtotal	2	2	0	0	2	0	100.00	1.61	THE VETERIE CO.	_							
									THELYPTERIDACEA								
GLEICHENIACEAE									Thelyptens	1	1	0	0	1	0	100.00	0.81
Gleichenia	5	4	1	2	3	0	100.00	4.03									
									Subtotal	1	ł	0	0	i	0	100 00	0.81
Subtotal	5	4	1	2	3	0	100.00	4.03	Total	124	114	10	1.0	101			100 6
HYMENOPHYLLAC	EAE								10141	124	114	10	19	101	4		100.8
	LAL	1	0	0	ı	0	4.00	0.81									
Hymenoglossum (e)																	
								1771									
Hymenophy Ilum	22	18	4	0	22	0		17.74	GYMNOSPERM.	AE: F	AMI	LIAS	. GE	NEI	ROS	Y	
Serpy llops is	I	1	0	0	i	0	4.00	0.81	GYMNOSPERM.	AE: F	AMI	LIAS	, GE	NEI	ROS	Y	
									GYMNOSPERM. ESPECIES	AE: F	AMI	LIAS	, GE	NEI	ROS	Y	
Serpy llops is	I	1	0	0	i	0	4.00	0.81		AE: F	'AMI	LIAS Ni			ROS AD	Y %F	∝D
Serpyllopsis Trichomanes	I I	1	0	0	1	0	4.00 4.00	0.81	ESPECIES								% D
Serpyllopsis Trichomanes	I I	1	0	0	1	0	4.00 4.00	0.81	ESPECIES  ARAUCARIACEAE	NT	NS	NI —	EN -	NA	AD	%F	
Serpyllopsis Trichomanes Subtotal	I I	1	0	0	1	0	4.00 4.00	0.81 0.81 20.17	ESPECIES								% D 6 25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes	25	1 1 21	0 0 4	0 0	1 25	0 0	4.00 4.00 100.00	0.81 0.81 20.17	ESPECIES  ARAUCARIACEAE	NT	NS	NI —	EN -	NA	AD	%F	
Serpyllopsis Trichomanes Subtotal	1 1 25	1 1 21	0 0	0	1 25	0 0	4.00 4.00 100.00	0.81 0.81 20.17	ESPECIES  ARAUCARIACEAE Araucaria	NT 1	NS	N1 - 0	EN - 0	NA	AD - 0	%F — 100 00	6 25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal	25	1 1 21	0 0 4	0 0	1 25	0 0	4.00 4.00 100.00	0.81 0.81 20.17	ESPECIES  ARAUCARIACEAE Araucaria	NT 1	NS	N1 - 0	EN - 0	NA	AD - 0	%F — 100 00	6 25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE	1 1 25	1 1 21	0 0 4 0 0	0 0 0	1 25 1	0 0 0	4.00 4.00 100.00 100.00	0.81 0.81 20.17 0.81	ARAUCARIACEAE Araucaria Subtotal	NT 1	NS	N1 - 0	EN - 0	NA	AD - 0	%F — 100 00	6 25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal	25	1 1 21	0 0 4	0 0	1 25	0 0	4.00 4.00 100.00	0.81 0.81 20.17 0.81	ARAUCARIACEAE Araucaria Subtotal	NT I	NS 1	N1 0 0	EN - 0	NA 1	AD	%F — 100 00 100.00	6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria	1 1 25	1 1 21	0 0 4 0 0	0 0 0	1 25 1	0 0 0	4.00 4.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus	NT I	NS 1	N1 - 0 0	EN - 0 0	NA 1 1 1	AD	%F ————————————————————————————————————	6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE	1 1 25	1 1 21 1	0 0 0 0	0 0 0	1 25 1 1	0 0 0 0	4.00 4.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya	NT I	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N1 - 0 0 0 0 0	EN - 0 0 0 0 0	NA 1 1 1 1 1 1	AD	%F ————————————————————————————————————	6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria	1 1 25	1 1 21 1	0 0 0 0	0 0 0	1 25 1 1	0 0 0 0	4.00 4.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya	NT I	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N1 - 0 0 0 0 0	EN - 0 0 0 0 0	NA 1 1 1 1 1 1	AD	%F ————————————————————————————————————	6.25 6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal	1 1 25	1 1 21 1	0 0 0 0	0 0 0	1 25 1 1	0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal	NT I	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N1 _ 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0	NA 1 1 1 1 1 1 1	AD	%F 	6.25 6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE	1 1 25 1 1,	1 1 21 1 1	0 0 0 0 0	0 0 0 0 0	1 1 25 1 1	0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE	NT 1 1 1 1 1 1 3	NS 1 1 1 1 1 1 1 3	N1 - 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 0 0	NA 1 1 1 1 1 3 3	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00	6.25 6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE Huperzia	1 1 25 1 1,	1 1 21 1 1 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0	1 1 25 1 1 1	0 0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal	NT I	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N1 _ 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0	NA 1 1 1 1 1 1 1	AD	%F 	6.25 6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE Huperzia	1 1 25 1 1,	1 1 21 1 1 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0	1 1 25 1 1 1	0 0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra	NT	NS 1 1 1 1 1 1 1 3 3 7	NI - 0 0 0 0 0 0 0 0 0	EN	NA  1  1  1  1  3	AD	%F 100 00 100.00 33.33 33.33 100 00	6.25 6.25 6.25 6.25 6.25 6.25 43.75
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal	1 1 25 1 1 1	1 1 21 1 1 1 1 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0	1 1 25 1 1 1 1 0 6 6	0 0 0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE	NT 1 1 1 1 1 1 3	NS 1 1 1 1 1 1 1 3	N1 - 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 0 0	NA 1 1 1 1 1 3 3	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00	6.25 6.25 6.25 6.25 6.25 6.25 43.75
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal MARSILEACEAE	1 1 25 1 1, 1 1 6	1 1 21 1 1 1 1 1 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 1	1 1 25 1 1 1 1 0 6 6 6	0 0 0 0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00	0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal	NT	NS 1 1 1 1 1 1 1 3 3 7	NI - 0 0 0 0 0 0 0 0 0	EN	NA  1  1  1  1  3	AD	%F 100 00 100.00 33.33 33.33 100 00	6.25 6.25 6.25 6.25 6.25 6.25 43.75
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE Huperzia Lycopodium  Subtotal  MARSILEACEAE Marsilea	1 1 25 1 1, 1 1 6 7	1 1 21 1 1 1 1 6 7	0 0 4 0 0 0 0		1 1 25 1 1 1 1 0 6 6 6 1 1		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00	0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal	NT  1 1 1 1 1 7 7	NS 1 1 1 1 1 1 3 7 7	N1 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN 0 0 0 0 0 0 0 2 2 2	NA  1  1  1  1  3  5  5	AD	%F 	6.25 6.25 6.25 6.25 6.25 6.25 6.25 43.75
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal MARSILEACEAE	1 1 25 1 1, 1 1 6	1 1 21 1 1 1 1 1 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 1	1 1 25 1 1 1 1 0 6 6 6	0 0 0 0 0 0 0 0	4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00	0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E)	NT  1  1  1  1  7  7	NS 1 1 1 1 1 1 1 3 7 7 7 1 1	N1 - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 2 2 1	NA  1  1  1  1  3  5  5	AD	%F	6.25 6.25 6.25 6.25 6.25 6.25 43.75 43.75
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal MARSILEACEAE Marsilea Pilularia	1 1 25 1 1 1 1 6 7	1 1 21 1 1 1 1 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 4 0 0 0 0		1 1 25 1 1 1 1 0 6 6 6 1 1 1		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E) Podocarpus	NT  1  1  1  1  1  7  7  1  2	NS 1 1 1 1 1 1 1 3 7 7 7 1 2 2	N1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 2 2 2 1 1	NA  1  1  1  1  3  5  5  1	AD	%F	6.25 6.25 6.25 6.25 6.25 18.75 43.75 6.25 12.50
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE Huperzia Lycopodium  Subtotal  MARSILEACEAE Marsilea	1 1 25 1 1, 1 1 6 7	1 1 21 1 1 1 1 6 7	0 0 4 0 0 0 0		1 1 25 1 1 1 1 0 6 6 6 1 1		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81	ESPECIES  ARAUCARIACEAE Araucaria  Subtotal  CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron  Subtotal  EPHEDRACEAE Ephedra  Subtotal  PODOCARPACEAE Lepidothamnus (E) Podocarpus Prumnopytis	NT  1 1 1 1 1 1 7 7 7	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NI - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 2 2 1 1 1 1	NA  1  1  1  1  3  5  5  1  0  1 0	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00 100 00 20.00 40 00 20.00	6 25 6.25 6.25 6 25 6 25 18.75 43.75 43.75 6.25 12.50 6.25
Serpyllopsis Trichomanes  Subtotal  ISOETACEAE Isoetes  Subtotal  LOPHOSORIACEAE Lophosoria  Subtotal  LYCOPODIACEAE Huperzia Lycopodium  Subtotal  MARSILEACEAE Marsilea Pilularia  Subtotal	1 1 25 1 1 1 6 7 1 1 1 2 2	1 1 21 1 1 1 1 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 4 0 0 0 0		1 1 25 1 1 1 1 0 6 6 6 1 1 1		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E) Podocarpus	NT  1  1  1  1  1  7  7  1  2	NS 1 1 1 1 1 1 1 3 7 7 7 1 2 2	N1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 2 2 2 1 1	NA  1  1  1  1  3  5  5  1	AD	%F	6 25 6.25 6.25 6 25 6 25 18.75 43.75 43.75 6.25 12.50 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal MARSILEACEAE Marsilea Pilularia Subtotal OPHIOGLOSSACEAE	1 1 25 1 1 1 1 6 7 7 1 1 1 2 E	1 1 21 1 1 1 1 6 7 7 2 2	0 0 4 0 0 0 0 0		1 1 25 1 1 1 0 6 6		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E) Podocarpus Prumnopytis Saxe Gothaea	NT  1 1 1 1 1 7 7 1 2 1 1 1 1 1 1 1 1 1 1	NS 1 1 1 1 1 3 3 7 7 7 1 2 1 1 1	NI - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN	NA  1  1  1  1  3  5  0  1  0  1	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00 100 00 20.00 40 00 20.00 20.00	6.25 6.25 6.25 6.25 6.25 18.75 43.75 43.75 6.25 6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Hupezia Lycopodium Subtotal MARSILEACEAE Marsilea Pilularia Subtotal OPHIOGLOSSACEAE Botrychium	1 1 25 1 1 1 1 6 7 1 1 1 2 E 2	1 1 21 1 1 1 1 6 7 7 2 2 2	0 0 4 0 0 0 0 0 0		1 1 25 1 1 1 0 6 6		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00 100.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81 1.62	ESPECIES  ARAUCARIACEAE Araucaria  Subtotal  CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron  Subtotal  EPHEDRACEAE Ephedra  Subtotal  PODOCARPACEAE Lepidothamnus (E) Podocarpus Prumnopytis	NT  1 1 1 1 1 1 7 7 7	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NI - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 2 2 1 1 1 1	NA  1  1  1  1  3  5  5  1  0  1 0	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00 100 00 20.00 40 00 20.00	6.25 6.25 6.25 6.25 6.25 18.75 43.75 43.75 6.25 6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Huperzia Lycopodium Subtotal MARSILEACEAE Marsilea Pilularia Subtotal OPHIOGLOSSACEAE	1 1 25 1 1 1 1 6 7 7 1 1 1 2 E	1 1 21 1 1 1 1 6 7 7 2 2	0 0 4 0 0 0 0 0		1 1 25 1 1 1 0 6 6		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00	0.81 0.81 20.17 0.81 0.81 0.81 0.81 4.84 5.65 0.81 0.81 1.62	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E) Podocarpus Prumnopytis Saxe Gothaea Subtotal	NT  1 1 1 1 1 7 7 1 2 1 1 1 5	NS 1 1 1 1 1 3 3 7 7 7 1 2 1 1 1 5 5	NI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN - 0 0 0 0 0 0 0 0 0 2 2 1 1 1 0 0 3	NA  1  1  1  1  3  5  0  1  0  1  2	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00 100 00 20.00 40 00 20.00 20.00 100.00	6.25 6.25 6.25 6.25 6.25 6.25 18.75 43.75 43.75 6.25 6.25 6.25 6.25
Serpyllopsis Trichomanes Subtotal ISOETACEAE Isoetes Subtotal LOPHOSORIACEAE Lophosoria Subtotal LYCOPODIACEAE Hupezia Lycopodium Subtotal MARSILEACEAE Marsilea Pilularia Subtotal OPHIOGLOSSACEAE Botrychium	1 1 25 1 1 1 1 6 7 1 1 1 2 E 2	1 1 21 1 1 1 1 6 7 7 2 2 2	0 0 4 0 0 0 0 0 0		1 1 25 1 1 1 0 6 6		4.00 4.00 100.00 100.00 100.00 100.00 14.29 85.71 100.00 50.00 50.00 100.00	0.81 0.81 0.81 0.81 0.81 0.81 0.81 4.84 5.65 0.81 1.62	ARAUCARIACEAE Araucaria Subtotal CUPRESSACEAE Austrocedrus Fitzroya Pilgerodendron Subtotal EPHEDRACEAE Ephedra Subtotal PODOCARPACEAE Lepidothamnus (E) Podocarpus Prumnopytis Saxe Gothaea	NT  1 1 1 1 1 7 7 1 2 1 1 1 1 1 1 1 1 1 1	NS 1 1 1 1 1 3 3 7 7 7 1 2 1 1 1	NI - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EN	NA  1  1  1  1  3  5  0  1  0  1  2	AD	%F 100 00 100.00 33.33 33.33 33.33 100 00 100 00 20.00 40 00 20.00 20.00 100.00	6.25 6.25 6.25 6.25 6.25 18.75 43.75 43.75 6.25 6.25 6.25

DICOTYLEDONE ESPECIES	AL.	T LATA	1121/	, 0	A 1 1					NT.	NS -	NI		NA		%F	% I
	NT.	88	NI	EN	NA	AD	%F	%D	BERBERIDACEAE						_		
ACANTHACEAE						-			Berberis	52	47	5	37	15	0	100.00	1.1
Dicliptera	1	1	0	1	0	0	50.00	0.02	Subtotal	5.2	47	5	37	15	0	100.00	1.1
Stenandrium	1	l	0	0	1	0	50.00	0.02							Ü	100.00	
Subtotal	2	2	0	1	1	0	100.00	0.04	BETULACEAE Alnus	l	1	0	0	0	1	100.00	0.0
AEXTOXICACEAE																	
Aextoxicon	1	1	0	0	1	0	100.00	0.02	Subtotal	1	1	0	0	0	1	100.00	0.0
Subtotal	1	1	0	0	1	0	100.00	0.02	BIGNONIACEAE Argylia	1.2	11	1	9	3	0	80.00	0.2
									Campsidium	1	1	0	0		0	6.67	0.0
AIZOACEAE									Eccremocarpus	1	i	0	0	1	0	6.67	0.0
arpobrotus	1	1	0	0	1	0	7.69	0.02	Tecoma	,	1	0	0	1	0		
Mesembry anthemum	1	1	0	0	0	1	7.69	0.02	recoma	ı	1	U	U	1	U	6.67	0.0
Fetragonia	11	10	1	6	4	1	84.62	0.25	Subtotal	15	14	1	9	6	0	100.00	0.3
Subtotal	13	12	1	6	5	2	100.00	0.29	BORAGINACEAE								
										2	2	0	0	2	0	1.72	0.0
MARANTHACEAE									Amsinckia	2	2	0	0		0	1.72	0.0
Alternanthera	2	2	0	1	1	0	22.22	0.05	Anchusa		1				1	0.86	0.4
maranthus	5	5	0	1	1	3	55.56	0.11	Asperugo	1	1	0	0		1	0.86	0.6
Gomphrena	2	2	0	0	2	0	22.22	0.05	Borago	1	1	0	0		1	0.86	0.0
									Cordia	j	1	0	1	0	0	0.86	0.6
ubtotal	9	9	0	2	4	3	100.00	0.21	Cryptantha	40	39	1	32		0	34.48	0.
				_		_			Cynoglossum	4	4	0	1	0	3	3.45	0.
NACARDIACEAE									Echium	2	2	0	0		2	1.72	0.
laplorhus	1	1	0	0		0	7 1.1	0.02	Heliotropium	27	26	1	20	5	2	23.28	0.
ithrea	1	1	0	1	0	0	7.14	0.02	Myosotis	9	8	1	0	2	7	7.76	0
chinus	12	9	3	6	6	0	85.71	0.02	Omphalodes	1	1	0	-0	0	1	0.86	0.
Cillius	1.2	9	3	0	0	U	03.71	0.27	Pectocarya	5	4	1	1	4	0	4.31	0.
banani	1.4	1.1	2	7	7	0	100.00	0.21	Plagiobothrys	17	17	0	13	4	0	14.66	0.
ubtotal	14	11	3	7	7	0	100.00	0.31	Tiquilia	5	5	0	1	4	0	4.31	0.
POCYNACEAE							25.00	0.02	Subtotal	116	112	4	69	29	18	100.00	2.6
ly tropus	1	1	0	0	1	0	25.00	0.02	Subtotal	110	112	4	07	27	10	100.00	
kytanthus	1	1	0	1	0	0	25.00	0.02	BUDDLEJACEAE								
inca	2	2	0	0	0	2	50.00	0.05	Buddleja	2	2	0	1	1	0	100.00	0
ubtotal	4	4	0	1	1	2	100.00	0.09									
RALIACEAE									Subtotal	2	2	0	1	1	0	100.00	0.
seudopanax	2	2	0	1	1	0	100.00	0.05	CACTACEAE								
									Acanthocalycium	l	1	0	()	1	0	0.40	0.
ubtotal	2	2	0	1	1	0	100.00	0.05	Arequipa	5	4	1	3	2	0	2.00	()
									Austrocactus	1	1	0	1	0	0	0.40	0.
RISTOLOCHIACEAE									Austrocy lindropuntia	2	1	1	2	0	0	0.80	0.
ristolochia	2	2	()	2	0	0	100.00	0.05	Browningia	1	1	0	0	1	0	0.40	0
									Copiapoa (E)	50	40	10	50	0	0	20.00	-1
ubtotal	2	2	()	2	0	()	100.00	0.05	Corryocactus	2	2	0	1	1	0	0.80	0
									Erdisia	2	2	0	2	0	0	0.80	0.
SCLEPIADACEAE									Eriosyce (E)	7	6	1	7	0	0	2.80	0.
phanostelma	1	1	()	0	1	0	5.88	0.02	Eulychnia	7	7	0	7	0	0	2.80	0
sclepias	1	1	()	0	0	1	5.88	0.02	Haageocereus	1	1	0	0	1	0	0.40	0.
stephanus	1	1	()	1	0	()	5.88	0.02	Helianthocereus	1	1	0	1	0	0	0.40	0.
ynanchum	10	9	1	9	1	()	58.82	0.23	Maihuenia	1	1	0	1	0	0	0.40	0.
) Iplolepis	1	1	()	1	0	0	5.88	0.02	Neoporteria	133	57	76	133	0	0	53.20	3
hilibertia	1	1	0	1	()	()	5.88	0.02	Neowerdermannia	123	1	0	1.55	0	0	0.40	0
weedia	2	2	0	2	()	0	11.76		Opuntia	1	1	()	0	1	0	0.40	0
	_	_		-	-	-			Oreocereus	2	5	()	1	1	0	0.40	0
ibtotal	17	16	1	14	2	1	100.00	0.38		1	1	0	1	0	0	0.40	0
		4.77	,		-				Reicheocactus								
ALANOPHORACEAE									Soehrensia	1	1	()	1	0	0	0.40	0
Ombrophytum	]	1	0	0	1	()	100.00	0.02	Tephrocactus	18	1.5	3	12	6	0	7.20	0
amorophytuili	1	1	U	U	1	U	100.00	0.02	Trichocereus	12	8	4	12	()	0	4.80	0.
ubtotal	1	1	()	()	1	()	100.00	0.02	Subtotal	250	154	96	236	14	()	100.00	5 6

	NT	NS	NI	EN	NA	ΑĐ	%F	%D		NT	NS	NI	EN N	iA z	ΑĐ	of F	a⁰ D
CAESALPINIACEAE									Philippiella	- <sub>-</sub>	1	0	0	1	0	0.97	0.02
Balsamocarpon (E)	1	1	0	1	()	0	3.70	0.02	Polycarpon	2	2	0	1	0	1	1.94	0.05
Caesalpinia	4	4	0	2	1	1	14.81	0.09	Pycnophyllum	5	5	0	()	5	0	4.85	0.11
Hoffmanseggia	7	7	0	1	6	()	25.93	0.16	Reichœlla	1	1	()	0	1	0	0.97	0.02
Senna	14	10	4	10	3	1	51.85	0.32	Sagina	6	3	3	3	1	2	5.83	0.14
Zuccagnia	1	1	0	0	1	0	3.70	0.02	Saponaria	ĺ	1	0	()	0	1	0.97	0.02
200000									Scleranthus	1	1	0	()	()	1	0.97	0.02
Subtotal	27	23	4	14	11	2	100.00	0.61	Silene	12	12	()	()	8	4	11.65	0.27
									Spergula	1	1	0	0	()	1	0.97	0.02
CALLITRICHACEAE									Spergularia	17	17	()	8	5	4	16.50	0.39
Callitriche	5	5	0	0	5	()	100.00	0.11	Stellaria	8	8	0	2	3	3	7,77	0.18
Subtotal	5	5	0	0	5	0	100.00	0.11	Subtotal	103	92	11	36	4()	27	100 00	2.31
CALVEEDACEAE									CELACTRACEAE								
CALYCERACEAE	1.1	0	3	2	9	0	22.45	0.25	CELASTRACEAE			0	()		()	100.00	0.00
Boopis	11	8	3	6	8	0	28.57	0.32	Maytenus	4	4	()	()	4	()	100 00	0 09
Calycera	8	6	2	3	5	0	16.33	0.18	Subtotal	4	4	0	()	4	0	100 00	0.09
Gamocarpha	4	4	0	0	4	0	8.16	0.09	Subtotal	4	4	U	U	4	0	100 00	0.09
Moschopsis Nastanthus	12	5	7	4	8	0	24.49	0.27	CERATOPHYLLACEA	V E							
Nastantiius	12	,	,	4	o	0	24.47	0.27	Ceratophyllum	VI.	1	()	()	1	()	100 00	0.02
Subtotal	49	34	15	15	34	0	100.00	1.11	Ceratophynum	1		()	U	1	17	100 00	002
Subtotal	77	54		10	٠,		100.00		Subtotal	1	1	0	0	i	0	100.00	0.02
CAMPANULACEAE									Stotolar							100.00	
Cyphocarpus (E)	4	3	1	4	0	0	12.50	0.09	CHENOPODIACEAE								
Downingia	1	1	0	0	1	0	3.12	0.02	Atriplex	28	28	0	13	7	8	50.00	0.63
Hypsela	1	1	0	0	1	0	3.12	0.02	Bassia	1	1	0	0	0	1	1.79	0.02
Legenere	1	1	0	0	1	0	3.12	0.02	Chenopodium	19	18	1	1	12	6	33.93	0.43
Lobelia	21	8	13	20	1	0	65.62	0.48	Nitrophila	1	1	0	0	1	0	1.79	0.02
Pratia	2	2	0	0	2	0	6.25	0.05	Salsola	1	1	0	()	0	1	1.79	0.02
Triodanis	1	1	0	0	1	0	3.12	0.02	Sarcocornia	1	1	()	0	1	0	1.79	0.02
Wahlenbergia	1	1	0	0	1	0	3.12	0.02	Suaeda	5	4	1	()	5	()	8.93	0.11
Subtotal	32	18	14	24	8	0	100.00	0.72	Subtotal	56	54	2	14	26	16	100.00	1.25
Suotour	02						100.00		Subtotur	2.0		-		-			
CAPPARACEAE									COMPOSITAE								
Cleome	2	1	1	1	1	0	100.00	0.05	Abrotanella	4	4	0	0	4	0	0.39	0.09
									Achillea	1	1	0	0	0	1	0.10	0.02
Subtotal	2	1	i	1	1	0	100.00	0.05	Achyrocline	1	1	0	0	1	0	0.10	0.02
									Acmella	1	1	0	()	()	1	0.10	0.02
CAPRIFOLIACEAE									Acrisione (E)	3	2	1	3	0	0	0.29	0.07
Sambucus	1	1	0	0	0	1	100.00	0.02	Adenocaulon	I	1	0	0	- 1	0	0.10	0.02
									Ageratina	1	1	0	0	1	0	0.10	0.02
Subtotal	1	1	0	0	0	1	100.00	0.02	Agoseris	2	2	0	1	1	0	0.19	0.05
									Amblyopappus	1	1	0	0	1	0	0.10	0.02
CARICACEAE									Ambrosia	5	5	0	0	2	3	0.48	0.11
Carica	1	1	0	l	• ()	0	100.00	0.02	Anaphalis	1	1	0	1	0	0	0.10	0.02
					_		100.00	0.03	Antennaria	2	1	1	0	2	0	0.19	0.05
Subtotal	1	ì	0	1	0	0	100.00	0.02	Anthemis	2	2	0	0	0	2	0.19	0.05
CARVORING	_								Aphyllocladus	2	1	0	2	0	0	0.19	0.05
CARYOPHYLLACEAE			0		0		0.07	0.03	Arctium	i 1	1	0	0	0	1	0.10	0.02
Agrostemma	1	1	0	0	0	1	0.97	0.02	Arctotheca	1	1	0	1	0	0	0.10	0.02
Arenaria Cardionema	8	8	0	4 1	2	1 0	7.77 2.91	0.18	Aristeguietia Amica	1	1	0	0	0	I	0.10	0.02
	3	4	0	0		3	3.88	0.07	Artemisia	4	3	1	1	2	1	0.10	0.02
Cerastium Colobanthus	4	3	1	0		0	3.88	0.09	Aster	5	4	1	0	5	0	0.48	0.11
Corrigiola	5	3	2	5		0	4.85	0.11	Baccharis	48	43	5		27	0	4.65	1.09
Dianthus	1	1	0	0		1	0.97	0.02	Bahia	1	1	0	1	0	0	0.10	0.02
Dry maria	3	3	0	1	2	0	2.91	0.07	Bellis	1	1	0	0	0	1	0.10	0.02
Herniaria	1	1	0	0		1	0.97		Bidens	12	7	5	1	6	5	1.16	0.27
Honckenya	1	i	0	0		0	0.97	0.02	Blennosperma	1	Ī	0	1	0	0	0.10	0.02
Lychnis	1	1	0	0		1	0.97	0.02	Brachyclados	1	1	0	1	0	0	0.10	0.02
Microphyes (E)	4	3	1	4	0	0	3.88	0.09	Calendula	3	3	0	0	0	3	0.29	0.07
Minuartia	1	1	0	0	1	0	0.97	0.02	Calopappus (E)	1	1	0	1	0	0	0.10	0.02
Paronychia	9	5	4	7	2	0	8.74	0.20	Carduus	2	2	()	0	0	2	0.19	0.05
Petrorhagia	2	2	0	0	0	2	1.94	0.05	Carthamus	2	2	0	0	0	2	0.19	0.05

Content		NT	NS	NI	EN	NA	AD	%F	o‰ [)		NT	NS	NI	EN NA	AD	%F	%D
Challemen	Centaurea	14	12	2	9	0	5	1.36	0.32	Macrachaenium	- 1	1	0	0 1	0	0.10	0.02
Chainmentenden	Centipeda	1	1	0	0	1	()	0.10	0.02	Madia	2	2	0	1 1	0	0.19	0.05
Chamening	Chaetanthera	48	37	11	25	2.3	0	4.65	1.09	Malacothrix	2	2	0	0 2	0	0.19	0.05
Chaptaiss   1	Chamaemelum	1	]	0	0	0	]	0.10	0.02	Marticorenia (E)	1	}	0	1 0	0	0.10	0.02
Cherication	Chamomilla	2	2	()	0	0	2	0.19	0.05	Micropsis	1	1	0	0 1	0	0.10	0.02
Chessendama	Chaptalia	1	1	0	1	0	0	0.10	0.02	Microseris	1	1	0	0 1	0	0.10	0.02
Chonechs Information   2   2   0   0   2   0   0   1   0   0   0   0   0   0   0		3	3	0	0	3	0	0.29	0.07	Mikania	1	1	0	0 1	0	0.10	0.02
Chalerischam		3	3	0	0	3	0	0.29	0.07	Mniodes	1	1	0	0 1	0	0.10	0.02
Chancastemanne		2	2	0	0	2	()	0.19	0.05	Moscharia (E)	2	2	0	2 0	0	0.19	0.05
Chesistathemides		2	2	0	0	2	()	0.19	0.05	Mutisia	28	23	5	14 14	0	2.71	0.63
Cheminstante   1		1							0.02	Nardophyllum	5	5	0	1 4	. 0	0.48	0.11
Chiquinging	*										30	25	5	3 27	0	2.90	0.68
Cross	*										5	5	0	4 1	0	0.48	0.11
Circum																	0.02
Cricis   Control   Contr											5						
Colonstephus																	
Comyram																	
Corcopos																	
Coula	,																
Cautrecassella																	
Custrecassella																	
Cymara	Crepis	3	3		0	0											
Dasyphysham	Cuatrecasasiella	i	l	0	0	1	0	0.10	0.02								
Deposite phase   1	Cynara	1	1	0	0	0	1	0.10	0.02		2						
Demophysion   2	Dasyphy llum	2	2	0	1	]	0	0.19	0.05		ļ	ļ					
Eclipta	Diplostephium	3	3	0	1	2	()	0.29	0.07	Pluchea	1		0		0	0.10	
Frechise	Doniophy ton	2	2	0	0	2	()	0.19	0.05	Podanthus (E)	2	2	0	2 (	0	0.19	0.05
Erechites 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Eclipta	1	l	0	0	1	()	0.10	0.02	Polyachyrus	8	7	1	6 .	0	0.77	0.18
Firachanenum	Encelia	5	1	4	2	3	()	0.48	0.11	Proustia	7	3	4	6	0	0.68	0.16
Friachaenium	Erechtites	1	}	0	1	()	()	0.10	0.02	Psilocarphus	1	1	0	0	0	0.10	0.02
Fringeron	Eriachaenium	ì	1	0	0	1	0	0.10		Schkuhria	3	2	1	0 3	0	0.29	0.07
Facelis		13								Scolymus	1	1	0	0 (	) 1	0.10	0.02
Filago					1					Senecio	252	223	29	116 13	. 5	24.39	5.71
Flaveria										Sigesbeckia	1	1	0	0	0	0.10	0.02
Flourensia										-	1	1	0	0 (	) 1	0.10	0.02
Galinsoga 2 2 2 0 0 2 2 0 0.19 0.05 Soliva 4 4 0 0 1 3 0 0.39 Ganochaeta 22 22 0 7 15 0 2.13 0.50 Sonchus 4 4 0 0 0 0 4 0.39 Ganochaeta 22 22 0 7 15 0 2.13 0.50 Sonchus 4 4 0 0 0 0 1 0 0.10 0.10 Gochnata 2 1 1 2 0 0 0 0.19 0.05 Steva 2 2 2 0 0 1 1 0 0 0.10 Gochnata 2 1 1 2 2 0 0 0 0.19 0.05 Steva 2 2 2 0 0 1 1 0 0 0.19 Gindela 4 4 4 0 1 3 3 0 0.39 0.09 Fagetes 4 4 4 0 0 0 3 1 0.39 Gindela 4 4 4 0 0 1 3 0 0.39 0.09 Fagetes 4 4 4 0 0 0 3 1 0.39 Gindela 6 6 6 0 5 1 0 0.58 0.14 Fanacetum 2 2 2 0 0 0 1 1 0.19 Gindela 6 6 6 0 5 1 0 0.58 0.14 Fanacetum 2 2 2 0 0 0 1 1 0.19 Gindela 6 6 6 6 2 2 52 14 0 6 6.39 1.50 Fessara 1 1 1 0 0 0 1 0 0.10 Helypoons 1 1 0 0 0 0 1 0.10 0.02 Farawacum 2 2 2 0 0 0 1 1 0 0.19 Helginom 8 7 1 8 0 0 0.77 0.18 Farawacum 2 2 2 0 0 0 1 1 0 0.10 Helginom 8 7 1 8 0 0 0.77 0.18 Farawacum 1 1 0 0 0 0 0 1 0.10 Helginom 8 7 1 8 0 0 0.77 0.18 Farawacum 1 1 0 0 0 0 0 1 0.10 Helginom 1 1 0 0 0 0 0 0 1 0.10 0.02 Firehelme 5 5 5 0 3 2 2 0 0.48 Helginom 2 2 2 0 0 0 2 0 0.19 0.05 Firehelme 5 5 5 0 3 2 2 0 0.48 Helginom 2 2 2 0 0 0 2 0 0.19 0.05 Firehelme 5 0 0 0 1 0.10 0.10 Hereroperma 1 0 0 0 1 0 0.10 0.02 Urmenetea 1 1 0 0 0 0 1 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urmenetea 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urmenetea 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urmenetea 1 1 1 0 0 0 1 0 0.10 0.10 Firehelme 1 1 0 0 0 0 0 0 0.10 0.02 Verbesina 2 2 2 0 0 0 0 0 0 0 0.10 0.02 Verbesina 2 2 2 0 0 0 0 0 0 0 0.10 0.02 Verbesina 1 1 0 0 0 1 0 0.10 0.10 0.10 Firehelme 1 1 0 0 0 0 0 0 0 0 0.10 0.02 Verbesina 1 1 0 0 0 0 0 0 0 0 0.10 0.02 Verbesina 1 1 0 0 0 0 0 0 0 0.10 0.10 0.10 0.10			•								,	2					
Gamochaeta 22 22 0 0 7 15 0 2.13 0.50 Sonchus 4 4 0 0 0 0 4 0.39 Gamochaeta 33 31 2 18 14 1 3.19 0.75 Spilanthes 1 1 0 0 0 1 0 0.10 Gochnatia 2 1 1 1 0 0 0 1 0 0.10 Gochnatia 2 1 1 1 0 0 0 1 0 0.19 Grindelia 4 4 0 1 3 0 0.39 0.09 Fagetes 4 4 4 0 0 3 3 1 0.39 Guterrezia 6 6 6 0 5 1 0 0.58 0.14 Tanacetum 2 2 2 0 0 0 1 1 0 0.39 Guterrezia 6 6 6 0 5 1 0 0.58 0.14 Tanacetum 2 2 2 0 0 0 1 1 0.09 Gothamnium (E) 1 1 0 0 1 0 0 0.10 0.02 Taraxacum 2 2 2 0 0 0 1 1 0.09 Haplopappus 66 6 4 2 52 14 0 6.39 1.50 Tessaria 1 1 0 0 0 1 0 0 1 0.00 Hedsium 8 7 1 8 0 0 0 77 0.18 Trageoposin 1 1 0 0 0 0 1 0.10 Hedsium 8 7 1 8 0 0 0 77 0.18 Trageoposin 1 1 0 0 0 0 1 0.10 Hedsium 8 7 1 8 0 0 0 0.77 0.18 Trageoposin 1 1 0 0 0 0 1 0.10 Hedsium 1 1 0 0 0 0 0 1 0.10 0.02 Tripheurospermum 1 1 0 0 0 0 1 0.10 Heterosperma 2 2 2 0 0 0 1 1 0.10 0.02 Tripheurospermum 1 1 0 0 0 0 1 0.10 Heterosperma 2 2 2 0 0 0 1 1 0.10 0.02 Tripheurospermum 1 1 0 0 0 0 0 1 0.10 Heterosperma 1 1 0 0 0 0 0 2 0.19 0.05 Tripheurospermum 1 1 0 0 0 0 0 1 0.10 0.10 Heterosperma 1 1 0 0 0 0 0 0 0.10 0.02 Tripheurospermum 1 1 0 0 0 0 0 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 407 0.95 Urospermum 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 407 0.95 Urospermum 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 0 0.19 0.05 Viguera 6 6 0 0 3 3 0 0.058 Lactuca 2 2 0 0 0 0 0 0 0 0.19 0.05 Viguera 6 6 0 0 3 3 0 0.058 Lactuca 2 2 0 0 0 0 0 0 0 0.19 0.05 Viguera 6 6 0 0 3 3 0 0.058 Lactuca 2 2 0 0 0 0 0 0 0 0.19 0.05 Viguera 6 6 0 0 3 3 0 0.058 Lactuca 2 2 0 0 0 0 0 0 0 0.19 0.05 Viguera 6 0 0 0 0 1 1 0 0.10 0.10 0.10 0.10 0.1										-							
Gnaphalium   33   31   2   18   14   1   3.19   0.75   Spilanthes   1   1   0   0   1   0   0.10																	
Gochinatia 2 1 1 2 0 0 0.19 0.05 Stevia 2 2 0 1 1 0 0.19 0.19 0.19 Grindelia 4 4 4 0 1 3 3 0 0.39 0.09 Tagetes 4 4 4 0 0 3 3 1 0.39 Guterrezia 6 6 6 0 5 1 0 0.58 0.14 Tanacetim 2 2 0 0 0 0 2 0.19 Gyothamium (E) 1 1 0 1 0 1 0 0.10 0.02 Taraxacum 2 2 2 0 0 0 1 1 0.19 0.19 Haplopappus 66 64 2 52 14 0 6.39 1.50 Taraxacum 2 2 2 0 0 0 1 1 0.19 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tolpis 1 1 0 0 0 0 1 0.10 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tolpis 1 1 0 0 0 0 1 0.10 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tragopogon 1 1 0 0 0 0 1 0.10 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tragopogon 1 1 0 0 0 0 1 0.10 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tragopogon 1 1 0 0 0 0 1 0.10 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tragopogon 1 1 0 0 0 0 0 1 0.10 0.10 Hedsynois 2 0 0 0 2 0 0.19 0.05 Tragopogon 1 1 0 0 0 0 0 1 0.10 0.10 Hedgynois 2 0 0 0 2 0 0.19 0.05 Tragopogon 1 1 0 0 0 0 0 1 0.10 0.10 Hedgynois 2 0 0 0 2 0 0.19 0.05 Tragopogon 1 1 1 0 0 0 0 0 1 0.10 0.10 Heteroxyerma 2 0 0 0 2 0 0.19 0.05 Tragopogon 1 1 1 0 0 0 0 0 1 0.10 0.10 Heteroxyerma 2 0 0 0 0 2 0 0.19 0.05 Tragopogon 1 1 1 0 0 0 0 0 1 0.10 0.10 0.10 0.10																	
Grindelia 4 4 0 1 3 0 0.39 0.09 Tagetes 4 4 4 0 0 3 1 0.39 Guterrezia 6 6 6 0 5 1 0 0.58 0.14 Tanacetum 2 2 2 0 0 0 0 2 0.19 Gypothamnium (E) 1 1 0 0 1 0 0 0.58 0.14 Tanacetum 2 2 2 0 0 0 1 1 0.19 Gypothamnium (E) 1 1 0 0 1 0 0 0.00 Taraxacum 2 2 2 0 0 0 1 1 0.19 0.10 Haplopappus 66 6 4 2 52 14 0 6.39 1.50 Fessina 1 1 0 0 0 1 0 0.10 Hedsynois 1 1 0 0 0 0 1 0.10 0.02 Tolpis 1 1 0 0 0 0 1 0.10 Helenium 8 7 1 8 0 0 0.77 0.18 Tragopogon 1 1 0 0 0 0 0 1 0.10 Helenium 8 7 1 8 0 0 0.77 0.18 Tragopogon 1 1 0 0 0 0 0 1 0.10 Helenium 8 7 1 0 0 0 0 1 1 0.10 0.02 Tripleurospermum 1 1 0 0 0 0 1 0.10 Helenium 2 2 2 0 0 0.48 Tragopogon 1 1 0 0 0 0 0 1 0.10 Helenium 8 7 1 0 0 0 0 0 1 0.10 0.02 Tripleurospermum 1 1 0 0 0 0 0 1 0.10 Helenium 1 0 0 0 0 0 1 0.10 0.02 Tripleurospermum 1 1 0 0 0 0 0 1 0.10 Helenium 1 0 0 0 0 0 2 0 0.19 0.05 Tripleurospermum 1 1 0 0 0 0 1 0.10 0.10 Helenium 1 0 0 0 1 0 0 0.10 0.02 Urnospermum 1 1 0 0 0 0 1 0 0.10 Helenium 1 0 0 0 1 0 0 0.10 0.02 Urnospermum 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 1 0 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 1 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 1 0 0.10 0.10 Hypochaeris 42 3 6 6 19 20 3 4.07 0.95 Urnospermum 1 1 0 0 0 0 0 0 1 0.10 0.10 0.10 Urnospermum 1 1 1 0 0 0 0 0 1 0.10 0.10 0.10 Urnospermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 0 0.10 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 0 0.10 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 0 0.10 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urnospermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urnospermum 1 1 1																	
Gutterrezia 6 6 6 0 5 1 0 0.58 0.14 Tanacetum 2 2 2 0 0 0 0 2 0.19 Gypothamnium (E) 1 1 0 0 1 0 0 0.10 0.02 Taraxacum 2 2 2 0 0 0 1 1 0.09 Hapkopappus 66 64 2 52 14 0 6.39 1.50 Fessara 1 1 0 0 0 1 0 0.10 0.10 Hedypnors 1 1 0 0 0 0 1 0.10 0.02 Tolpis 1 1 0 0 0 0 1 0.10 0.10 Hedenium 8 7 1 8 0 0 0.777 0.18 Tragopogon 1 1 0 0 0 0 0 1 0.10 Helanthus 1 1 0 0 0 0 1 0.10 0.02 Trichocline 5 5 0 0 3 2 0 0.48 Helogyne 2 2 0 0 1 1 0 0.19 0.05 Tripleurospermum 1 1 0 0 0 0 1 0.10 0.10 Heterosperma 2 2 0 0 1 1 0 0.19 0.05 Tripleurospermum 1 1 0 0 0 0 1 0.10 0.10 Herecum 10 9 1 0 6 4 0.97 0.23 Trixls 1 1 0 0 0 1 0 0 1 0 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urmenetea 1 1 0 0 0 1 0 0.10 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Hypochaeris 2 1 1 0 0 0 1 0 0.10 0.02 Verbesina 2 2 0 0 1 1 0 0 0.19 0.05 Tragopogon 1 1 1 0 0 0 0 1 0.10 0.10 Urmenetea 1 1 1 0 0 0 1 0 0.10 0.10 0.10 Urmenetea 1 1 1 0 0 0 1 0 0.10 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 0 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 1 0 0 0 1 1 0 0.10 0.10 Urmspermum 1 1 1 1 0 0 0 1 1 0 0.10 0.1																	0.09
Gypothamnium (E)										*							
Haplopappus																	0.05
Hedyprions																	0.05
Helenium		66	64	2	52	14	0	6.39	1.50								
Helianthus	Hedypnois	1	1	0	0	0	]	0.10	0.02	Tolpis	I						
Helogyne	Helenium	8	7	1	8	0	0	0.77	0.18	Tragopogon							0.02
Heterosperma 2 2 2 0 0 0 2 0 0 0.19 0.05 Triptilion 20 14 6 19 1 0 1.94 Herecium 10 9 1 0 6 4 0.97 0.23 Frixis 1 1 0 0 0 1 0 0.10 Hinterhubera 1 1 0 0 1 0 0 0.10 0.02 Urmenetea 1 1 1 0 0 0 1 0 0.10 Hypochaeris 42 36 6 19 20 3 4.07 0.95 Urospermum 1 1 0 0 0 1 0 0.10 Hysterionica 1 1 0 0 0 1 0 0.10 0.02 Verbesina 2 2 0 0 1 1 0 0.19 Hysterionica 1 1 0 0 0 1 0 0.10 0.02 Verbesina 2 2 0 0 1 1 0 0.19 Hysterionica 2 1 1 0 2 0 0.19 0.05 Vigurera 6 6 6 0 3 3 0 0.58 Lactuca 2 2 0 0 0 0 2 0.19 0.05 Vigurera 6 6 6 0 0 3 3 0 0.58 Lactuca 2 2 0 0 0 0 0 2 0.19 0.05 Vigurera 2 2 0 0 1 1 0 0 0.19 Lagenophora 3 3 0 0 0 3 0 0.29 0.07 Wedela 1 1 0 0 0 1 0 0.10 1.36 Lasthenia 1 1 0 0 0 1 0 0.10 0.02 Werneria 14 14 0 3 11 0 1.36 Lasthenia 1 1 0 0 0 1 0 0.10 0.02 Werneria 14 14 0 3 11 0 1.36 Leontodon 3 3 0 0 0 0 3 0.29 0.07 Lepidophyllum 1 1 0 0 0 1 0 0.10 0.02 Subtotal 1033 927 106 441 502 90 100.00 2 Leotocarpha (b) 1 1 0 0 0 1 0 0.10 0.02 CONVOLVULACEAE Lecucarthenium 1 1 0 0 0 1 0 0.10 0.02 CONVOLVULACEAE Lecucarthenium 1 1 0 0 0 1 0 0.10 0.02 Convolvulus 7 6 1 1 5 1 38.89 Leunisia 1 1 0 0 0 1 0 0.10 0.02 Cressa 1 1 1 0 0 0 1 0 5.56 Lophopappus 1 1 0 0 1 0 0 0.10 0.02 Dichondra 3 1 1 0 0 0 1 0 5.56 Lophopappus	Helianthus	1	1	0	0	()	1	0.10	0.02	Trichocline	5	5					
Heterosperma	Helogyne	2	2	0	1	1	()	0.19	0.05	Tripleurospermum	1	1	()	0 (	1	0.10	0.02
Hinterhubera		2	2	0	0	2	()	0.19	0.05	Triptilion	20	14	6	19	0	1.94	0.45
Hypochaeris	Hieracium	10	9	1	0	6	4	0.97	0.23-	Frixis	1	1	0	0 1	0	0.10	0.02
Hysterionica	Hinterhubera	1	1	()	1	0	()	0.10	0.02	Urmenetea	1	1	()	0 1	0	0.10	0.02
Hysterionica	Hypochaeris	42	36	6	19	20	3	4.07	0.95	Urospermum	1	1	0	0 (	1	0.10	0.02
December   Composition   Com	Hysterionica	1	1	-0	()	ı		0.10		Verbesina	2	2	()	1 1	0	0.19	0.05
Lactuca         2         2         0         0         0         2         0.19         0.05         Villanova         2         2         0         1         1         0         0.19           Lagenophora         3         3         0         0         3         0         0.29         0.07         Wedelia         1         1         0         0         1         0         0.10           Lasthenia         1         1         0         0         0         1         0.10         0.02         Werneria         14         14         0         3         11         0         1.36           Lasthenia         1         1         0         1         0         0.10         0.02         Xanthium         4         4         0         1         0         1.36           Leontodon         3         3         0         0         0         0.10         0.02         Subtotal         1033         927         106         441         502         90         100.00         2           Leptocarpha (E)         1         1         0         0         1         0.10         0.02         CONVOLVULACEAE										Viguiera	6	6	()	3 3	0	0.58	0.14
Lagenophora         3         3         0         0         3         0         0.29         0.07         Wedela         1         1         0         0         1         0         0.10           Lapsana         1         1         0         0         0         1         0.10         0.02         Werneria         14         14         0         3         11         0         1.36           Lasthenia         1         1         0         1         0         0.10         0.02         Xanthium         4         4         0         1         0         3         0.39           Leontodon         3         3         0         0         0         0.10         0.02         Subtotal         10.33         927         106         441         502         90         100.00         2           Leptiocarpha (b)         1         1         0         0         1         0         0.10         0.02         CONVOLVULACEAE         Leucanthemum         1         1         0         0         0         0.10         0.02         CONVOLVULACEAE         Leucanthemum         4         3         1         0         2         2										-	2	2	()	1 1	0	0.19	0.05
Lapsana         1         1         0         0         0         1         0.10         0.02         Werneria         14         14         0         3         11         0         1.36           Lasthenia         1         1         0         1         0         0.10         0.02         Nanthium         4         4         0         1         0         3         0.39           Leontodon         3         3         0         0         0         3         0.29         0.07           Lepidophyllum         1         1         0         0         1         0         0.10         0.02         Subtotal         1033         927         106         441         502         90         100.00         2           Leptocarpha (E)         1         1         0         0         1         0.10         0.02         CONVOLVULACEAE         Leucarthemum         1         1         0         0         0         0.00         CONVOLVULACEAE           Leucheria         46         43         3         19         27         0         445         1.04         Convolvulus         7         6         1         1         5														0 1			
Lasthenia         1         1         0         1         0         0         0.10         0.02         Xanthium         4         4         0         1         0         3         0.39           Leontodon         3         3         0         0         0         3         0.29         0.07           Lepidophyllum         1         1         0         0         1         0         0.10         0.02         Subtotal         1033         927         106         441         502         90         100.00         2           Leptiocarpha (E)         1         1         0         0         0         0.10         0.02         CONVOLVULACEAE         Leucanthemum         1         1         0         0         0         0.10         0.02         Calystegia         4         3         1         0         2         2         22.22           Leucheria         46         43         3         19         27         0         4.45         1.04         Convolvulus         7         6         1         1         5         1         38.89           Leucheria         1         1         0         0         0																	
Leontodon         3         3         0         0         0         3         0.29         0.07           Lepidophyllum         1         1         0         0         1         0         0.10         0.02         Subtotal         1033         927         106         441         502         90         100.00         2           Leptocarpha dEi         1         1         0         0         0         0.10         0.02         CONVOLVULACEAE         Universal         <																	
Lepidophyllum         1         1         0         0         1         0         0.10         0.02         Subtotal         1033         927         106         441         502         90         100.00         2           Leptocarpha dEt         1         1         0         1         0         0         0.10         0.02         CONVOLVULACEAE										Aandiiuiii	-4	4	U	1 (	,	0.37	0.07
Leptinella         1         1         0         0         1         0         0.10         0.02         CONVOLVULACEAE           Leptocarpha dE1         1         1         0         0         0         0.10         0.02         CONVOLVULACEAE           Leucanthemum         1         1         0         0         0         1         0.10         0.02         Calystegia         4         3         1         0         2         2         22.22           Leucheria         46         43         3         19         27         0         445         1.04         Convolvulus         7         6         1         1         5         1         38.89           Leunisia         1         1         0         0         1         0.00										Cubecast	1022	027	104	1.11 505	nn	100.00	22.24
Leptocarpha (E)         1         1         0         1         0         0         0 10         002         CONVOLVULACEAE           Leucanthemum         1         1         0         0         0         1         0.10         0.02         Calystegia         4         3         1         0         2         2         22.22           Leucheria         46         43         3         19         27         0         445         1.04         Convolvulus         7         6         1         1         5         1         38.89           Leunisia         1         1         0         0         1         0         0.10         0.02         Cressa         1         1         0         0         1         0         5.56           Lophopappus         1         1         0         1         0         0         0.10         0.02         Dichondra         3         1         2         0         3         0         16.67		1								Subtotai	1033	927	106	441 502	90	100.00	23.30
Leucanthemum         1         1         0         0         0         1         0.10         0.02         Calystegia         4         3         1         0         2         2         22.22           Leucheria         46         43         3         19         27         0         4 45         1.04         Convolvulus         7         6         1         1         5         1         38.89           Leunisia         1         1         0         0         1         0         0.10         0.02         Cressa         1         1         0         0         1         0         5.56           Lophopappus         1         1         0         1         0         0         10         0.02         Dichondra         3         1         2         0         3         0         16.67		1															
Leucheria         46         43         3         19         27         0         4.45         1.04         Convolvulus         7         6         1         1         5         1         38.89           Leunisia         1         1         0         0         1         0         0.10         0.02         Cressa         1         1         0         0         1         0         5.56           Lophopappus         1         1         0         1         0         0         10         0.02         Dichondra         3         1         2         0         3         0         16.67								0.10									
Leunisia         1         1         0         0         1         0         0.10         0.02         Cressa         1         1         0         0         1         0         5.56           Lophopappus         1         1         0         1         0         0         0.10         0.02         Dichondra         3         1         2         0         3         0         16.67					()		1	0.10	0.02								0.09
Lophopappus 1 1 0 1 0 0 010 002 Dichondra 3 1 2 0 3 0 16.67		46	43	3	19	27	()	4.45	1.04			6					0.16
	Leunisia	1	1	0	()	- 1	()	0.10	0.02	Cressa	1	1	0	0 1	()	5.56	0.02
Therefore the state of the stat	Lophopappus	1	1	()	1	()	()	() ]()	0.02	Dichondra	3	1	2	0 3	0	16.67	0.07
Lucilia 5 5 0 1 4 0 048 041 Evolvulus 2 1 1 0 2 0 11.11	Lucilia	5	5	0	1	4	()			Evolvulus	2	1	1	() 2	()	11.11	0.05

	NI.	15	NI.	EN	NA	ΑD	or, p	œ, [)		NI	NS	NI	EN.	VΑ	ΑĐ	αF	a(1)
Ipomoea	1	1	()	0	()	ı	5.56	0.02	CUCURBITACEAF Sicyos								
Subtotal	18	13	5	1	13	4	100 00	0.41	sicyos	I	1	()	()	1	()	100.00	0.02
CORTARIACEAE									Subtotal	1	1	()	()	1	()	100 00	0.02
Coriaria	1	1	()	()	1	()	100 00	0.02	CUNONIACEAE								
									Caldeluvia	1	1	()	()	1	()	50.00	0.00
Subtotal	1	1	()	()	1	()	100.00	0.02	Weinmannia	1	1	()	()	1	()	50 00	0.02
CORNACEAE									Subtotal	2	2	()	()	2	()	100.00	() ()4
Griselinia	4	4	()	3		{)	100.00	0.09									
Subtotal	4	4	0	3	1	0	100.00	n ng	CUSCUTACEAF Cuscuta		10	,	2				
Subtotal	4	4	U		1	0	100.00	0.09	Cuscuta	11	]()	1	2	9	()	100 00	0.25
CRASSULACEAE									Subtotal	1.1	[-()	1	2	9	()	100 00	0.25
Crassula	7	7	0	2	5	0	87.50	0.16									
Sedum	I	1	0	()	0	1	12.50	0.02	DESFONTAINIACEAE Desfontainia	l	1	()	0		0	166.60	0.03
Subtotal	8	8	()	2	5	1	100.00	0.18	Desionalita	ı	1	U	()	1	()	100 00	() ()2
									Subtotal	1	1	()	()	1	()	100 00	0.02
CRUCIFERAE		,	()		()	0	0.45	0.03	DIDEACACEAT								
Agallis (E) Alyssum	1	1	0	1 ()	0	0	0.45	0.02	DIPSACACEAE Dipsacus	1	1	()	()	()	1	33.33	0.03
Barbarea	1	i	0	0	0	1	0.45	0.02	Knautia	1	1	0	0	0	1	33.33	0.02
Brassica	4	4	0	0	()	4	1.80	0.09	Scabiosa	1	1	0	0	()	1	33 33	0.02
Camelina	I	1	0	0	0	1	0.45	0.02									
Capsella	1	1	0	0	()	1	0.45	0.02	Subtotal	3	3	()	()	()	3	$\{ (x)(x) \in \mathcal{C}(X) \}$	0.06
Cardamine	36	20	16	17	19	0	16 22	0.82	DONATIACEAG								
Cardaria Coronopus	1	1 3	0	0	0	1	0.45	0.02	DONATIACEAE Donatia	1	1	()	()			100.00	0.03
Crambe	1	1	0	0	()	i	0.45	0.02	Donatia	1	1	U	()	Į.	()	100.00	0.02
Cremolobus	1	1	0	()	ï	0	0.45	0.02	Subtotal	1	1	()	()	1	()	100.00	0.02
Descurainia	24	1.5	9	8	15	1	10.81	0.54									
Diplotaxis	2	2	0	1	0	1	0.90	0.05	DROSERACEAE								
Draba	8	8	0	i	6	1	3.60	0.18	Drosera	1	1	()	()	[	()	100.00	0.02
Eremodraba Eruca	1	1	0	1 ()	0	0	0.45	0.02	Subtotal	ı	1	()	0	1	()	100.00	0.02
Eudema	2	2	0	0	2	0	0.90	0.05	Suototal	1	1	U	U	1	U	100.00	0.02
Grammosperma	1	1	()	()	1	0	0.45	0.02	ELAEOCARPACEAE								
Hesperis	1	l	0	0	0	1	0.45	0.02	Aristotelia	1	1	()	()	]	()	33.33	0.02
Hirschfeldia	1	1	0	0	-()	1	0.45	0.02	Crinodendron	2	2	()	2	0	()	66 67	() ()5
Hollermayera (E) Hymenolobus	1	1	0	1 0	0	0	0.45	0.02	Subtotal	3	3	()	2	1	-()	100.00	0.0*
Isatis	1	1	0	0	0	1	0.45	0.02	Suntotal	-,	-'	(/	-	1	17	100.00	
Ivania (E)	1	i	0	1	0	0	0.45		ELATINACEAE								
Lepidium	24	24	0	9	1.3	2	10.81	0.54	Elatine	1	1	()	()	1	()	100.00	0.02
Lobularia	1	l	()	()	()	1	0.45	0.02									
Mancoa	2	2	0	0	2	0	0.90		Subtotal	1	1	()	()	1	()	100 00	0.02
Mathewsia	6	6	0	6	()	0	2.70	0.14	EMPETRAC EAE								
Menonvillea Neuontobothrys	20	19	()	15	5	0	9 01	0.45	Empetrum	1	1	()	()	1	()	100.00	0.02
Onuris	5	5	0	0	5	0		0.11									
Raphanus	2	2	()	()	()	2	() 9()		Subtotal	1	1	()	()	1	()	100.00	0.02
Rapistrum	1	1	0	()	()	1	0.45	()()2									
Rorippa	7	7	()	1	5	1	3.15		EPACRIDACEAE			()	0	,	0	100 00	0.02
Schizopetalon Suambrum	10	10	0	9	1	()	4.50		Lebetanthus	l	1	{)	()	1	U	100.00	0.02
Sisymbrium Thlaspi	32	28	4	13	14	5	14.41	0.72	Subtotal	1	1	()	()	1	()	100 00	() ()2
Weberbauera	7	7	0	4	3	()	3.15	0.16									
Werdermannia	2	2	0	2	()	()		0.05	EREMOLEPIDACEAE								
Xerodraba	1	1	()	()	1	()	0.45	0.02	Antidaphne Lepidoceras	1	1	()		()	()	50.00 50.00	
Subtotal	222	191	31	93	97	32	100 00	5 00	Subtotal	2	2	0	2	()	()	100 00	0 04

	NT	NS	NI	EN I	NA	AD	%F	% D		NT	NS	NI	EN N	A	ΑD	%F	%D
			-														
ERICACEAE						0	27.50	0.14	GOMORTEGACEAE (E)		1	0	1	0	0	100.00	0.02
Gaultheria	6	6	0	1	5	0	37.50 62.50	0.14	Gomortega (E)	1	1	U	1	U	U	100.00	0.02
Pernettya	10	4	0	1	9	U			Subtotal	1	1	0	l	0	0	100.00	0.02
Subtotal	16	10	6	2	14	0	100.00	0.37	GOODENIACEAE								
EUCRYPHIACEAE									Selliera	1	1	0	0	ł	0	100.00	0.02
Eucryphia	2	2	0	1	1	0	100.00	0.05									
									Subtotal	1	1	0	0	l	0	100.00	0.02
Subtotal	2	2	0	1	1	0	100.00	0.05	GUNNERACEAE								
EUPHORBIACEAE									Gunnera	7	7	0	4	3	0	100.00	0.16
Adenopeltis (E)	1	1	0	1	0	0	2.22	0.02	Gamera	,						100.00	0.10
Argythamnia	5	4	1	5	0	0	11.11	0.11	Subtotal	7	7	0	4	3	0	100.00	0.16
Avellanita (E)	1	1	0	1	0	0	2.22	0.02									
Colliguaja	4	4	0	3	1	0	8.89	0.09	GUTTIFERAE								
Croton	1	1	0	1	0	0	2.22	0.02	Hypericum	5	5	0	l	-1	3	100.00	0.11
Dysopsis	1	1	0	0	1	0	2.22	0.02									
Eremocarpus	1	1	0	0	0	1	2.22	0.02	Subtotal	5	5	0	1	ļ	3	100.00	0.11
Euphorbia	30	29	1	14	6	10	66.67	0.68									
Ricinus	ł	1	0	0	0	1	2.22	0.02	HALORAGACEAE	-	2			2	0	100.00	0.05
Character	45	43	2	25	8	12	100.00	1.00	Myriophyllum	2	2	0	0	2	0	100.00	0.05
Subtotal	40	43		-3	0		100.00	1100	Subtotal	2	2	0	0	2	0	100.00	0.05
FAGACEAE																	
Nothofagus	11	10	1	5	6	0	100.00	0.25	HIPPURIDACEAE						0	100.00	0.03
									Hippuris	1	1	0	0	ļ	0	100.00	0.02
Subtotal	11	10	1	5	6	0	100.00	0.25	Subtotal	1	}	0	0	1	0	100.00	0.02
FLACOURTIACEAE																	
Azara	8	8	0	5	3	0	88.89	0.18	HYDRANGEACEAE							100.00	0.03
Berberidopsis	1	l	0	1	0	0	11.11	0.02	Hydrangea	1	1	0	0	1	0	100.00	0.02
Subtotal	9	9	0	6	3	0	100.00	0.02	Subtotal	1	1	0	0	1	0	100.00	0.02
00010101																	
FRANKENIACEAE									HYDROPHYLLACEAE								
Frankenia	4	4	0	1	3	0	100.00	0.09	Nama	2	2	0	1	1	0	25.00	0.05
									Phacelia	6	6	0	0	6	0	75.00	0.14
Subtotal	4	4	0	1	3	0	100.00	0.09	Cuberral	8	8	0	1	7	0	100.00	0.19
									Subtotal	8	8	U	ı	/	U	100.00	0.19
FUMARIACEAE			0	0			100.00	0.00	ICACINACEAE								
Fumaria	4	4	0	0	0	4	100.00	0.09	Citronella	1	1	0	1	0	0	100.00	0.02
Subtotal	4	4	0	0	0	4	100.00	0.09									
Subtotal	-4	4	U	0	0	7	100.00	0.07	Subtotal	1	1	0	]	()	0	100.00	0.02
GENTIANACEAE																	
Centaurium	3	3	()	0	1	2	23.08	0.07	KRAMERIACEAE								
Cicendia	1	1	0	0	1	0	7.69	0.02	Krameria	2	2	0	1	1	0	100.00	0.05
Gentiana	6	6	0	5	- 1	()				2	2		,			100.00	0.06
Gentianella	3	3	0	1	2	()	23.08	0.07	Subtotal	2	2	0	1	1	0	100.00	0.05
								0.70	LABIATAE								
Subtotal	13	13	0	6	5	2	100.00	0.30	Galeopsis	1	1	0	0	0	ı	2.50	0.02
GERANIACEAE									Glechoma		1	0	0	0	i	2.50	
Erodium	5	4	1	0	0	5	17.86	0.11	Kurzamra	1	1	0	0	1	0	2 50	0.02
Geranium	23	22	1	12					Lamium	1	1	0	0	0	-1	2.50	0.02
Servicialiii			,			0	02.17	J	Lycopus	1	1	0	0	0	1	2.50	
Subtotal	28	26	2	1.3	5	1.1	100.00	0.63	Marrubium	1	1	0	0	0	- 1	2.50	
									Metissa	1	1	0		0	1	2 50	0.02
GESNERIACEAE									Mentha	4	4	0	0	0	4	10.00	
Asteranthera	1	1	0	(	)	(	33.33		Prunella	1	1	0		0	1	2.50	
Mitraria	1	1	0	(		(			Salvia	4	4	0		4	0	10.00	
Sarmienta (E)	1	1	0	I	()	(	33.33	0.02	Satureja	4	4	0		2	0	10.00 7.50	
E 1 1		,					10000	0.07	Scutellaria	3	3	0		0	0	7 50	
Subtotal	3	3	()	1	1 2	(	100.00	0.06	Sphacele	.5	3	θ	3	U	· ·	7.20	0,07

	NT	NS	NI	EN	NΛ	ΑD	<i>%</i> F:	%D		17	15	NI	EN 1	NΑ	AD	%F	%D
Stachys Teucrium	12	12	0	10	1	()	30.00	0.27	Dinemandra (E)	1	I	()	1	()	()	50 00	0.02
reaction	ú		U		0	()	5.00	0.03	Subtotal			()	2	{)	()	100 00	() ()4
Subtotal	4()	40	()	18	10	12	100.00	0.89	MALWACEAE								
LARDIZABALACEAE									MALVACEAE Anoda			()	()	/1		0.74	0.02
Boquila	1	1	()	0	1	0	50.00	0.02	Corynabutilon			0	4	()	0	0.76	0.02
Lardizabala (E)	1	ı	0	1	0	0	50.00	0.02	Cristaria	fi:	60	5	61	4	0	49.24	14
talana(ana (c)		•	Ü	,		0	20.00	V.V.	Gossypium	1	1	0	()	()	ı,	0.76	0.02
Subtotal	2	2	0	1	1	()	100.00	0.04	Hibiscus	i	1	0	()	()		0.76	0.02
									Lavatera	2	3	0	()	()	,	1.52	0.05
LAURACEAE									Malacothamnus	1	1	()	()	1	()	0.76	0.02
Beilschmiedia	2	2	0	2	0	0	40.00	0.05	Malya	3		0	0	()	4	2 27	0.0
Cryptocarya	1	1	0	1	0	0	20.00	0.02	Malvella	1	1	()	()	1	()	0.76	0.02
Persea	2	2	0	1	1	0	40.00	0.05	Modiola	1		()	()	()	1	0.76	0.02
									Nototriche	30	29	1	6	24	()	22.73	0.68
Subtotal	5	5	()	4	1	0	100.00	0.12	Palaua	5	< .	()	2	3	()	3.79	0.11
									Sida	2	2	()	()	()	2	1.52	()()5
LEDOCARPACEAE									Sphaeralcea	3	3	()	2	. !	()	2.27	()()"
Balbisia	3	3	()	3	()	0	75.00	0.07	Farasa	9	9	()	2	7	()	6.82	0.20
Wendtia	1	1	0	0	1	0	25.00	0.02	Urocarpidium	2	-	()	()	2	()	1.52	() (} <
Subtotal	4	4	0	3	i	()	100.00	0.09	Subtotal	132	126	6	77	44	(1	100 00	2 9x
LENTIBULARIACEAE									MIMOSACEAE								
Pinguicula	2	2	0	()	2	0	66.67	0.05	Acacia	8	8	()	()	1	7	53.33	0.18
Utricularia	1	1	0	()	1	0	33.33	0.02	Calliandra	1	1	()	1	()	()	6.67	0.02
	2				2		100.00	0.07	Prosopis	6	6	()	2	4	()	40.00	0 [4
Subtotal	3	3	0	()	3	0	100.00	0.07	Subtotal	15	15	()	3	5	7	100 00	0.34
LINACEAE																	
Cliococca	1	1	0	0	1	0	11.11	0.02	MISODENDRACEAE								
Linum	8	7	1	5	1	2	88.89	0.18	Misodendrum	9	8	!	1	8	()	100.00	0.20
Subtotal	9	8	1	5	2	2	100.00	0.20	Subtotal	9	8	1	1	8	()	100 00	0.20
LOASACEAE									MOLLUGINACEAE								
Caiophora	15	13	2	7	8	0	19.23	0.34	Glinus	1	l	0	()	1	()	50.00	0.02
Loasa	5.3	45	8	41	12	()	67.95	1.20	Mollugo	1	1	()	()	()	1	50.00	()()2
Mentzelia	8	7	1	2	6	()	10.26	0.18									
Scyphanthus (E)	2	2	()	2	0	0	2.56	0.05	Subtotal	2	2	()	()	- 1	1	100.00	() ()4
Subtotal	78	67	11	52	26	0	100.00	1.77	MONIMIACEAE								
									Laurelia	1	1	()	1	()	()	11.11	() ()
LORANTHACEAE									Laureliopsis	1	1	()	()	1	0	33.33	0.02
Desmaria (E)	1	1	()	1	()	0	16.67	0.02	Peumus (E)	1	1	()	1	()	1.1	33.33	0.02
Ligaria	1	1	0	()	1	0	16.67	0.02									
Notanthera (E)	1	1	0	1	()	0	16.67 50.00	0.02	Subtotal	3	3	()	2	- 1	()	100.00	0.06
Tristerix	3	3	()	ı	-	0	20.00	0.07									
Subtotal	6	6	0	3	3	0	100.00	0.13	MYRICACEAF Myrica	l	1	()	()	1	()	100 00	0.02
LYTHRACEAE									Subtotal	1	1	()	()	1	(1	100.00	0.02
Ammannia	1	1	0	()	()	1	9.()9	0.02	1244-14-14M1		,						
1.ythrum	4	4	()	()	0	4	36.36	0.09	MYRTACEAE								
Pleurophora	6	3	3	6	()	()	54.55	0.14	Amomyrtus	2	2	()	1	!	()	8.33	0.05
									Blepharocalyx	1	1	()	1	()	()	4 17	0.02
Subtotal	11	8	3	6	()	5	100.00	0.25	Legrandia (E)		1	()	1	()	()	4 17	0.02
									Luma	-	-	()	1	1	(1	8.33	0.05
MALESHERBIACEAE									Myrceugenia	13	12	l	9	4	U	54.17	0.29
Malesherbia	2.5	18	7	24	1	()	100 00	0.57	Myrcianthes	1	1	0	1	()	()	4 17	0.02
		1.0	-	3.4			100.00	0.57	Myrteola	1	1	()	()		()	4 17	0.02
Subtotal	2.5	18	7	24	1	()	100 00	U.27	Tepualia Ugni	1	i 2	()	()	1	()	4.17 8.33	0.02
MALPIGHIACEAE									O FIII	-	-		•			.,,,,,	
Dinemagonum (E)	1	1	()	l	()	()	50 00	0.02	Subtotal	24	23	- 1	1.5	4	0	100 00	0.54

	NT	NS	NI	EN	NA	AD	%F	%D		NT	NS	NI	EN N	A AD	%F	%D
NOLANACEAE									Indigofera	1	1	0	0	0 1	0.31	0.02
Alona (E)	6	6	()	6	()	0	13.95	0.14	Lathyrus	19	16	3	4 [		5.92	0.43
Nolana	37	37	()	34	3	0	86.05	0.84	Lotus	4	4	0	0	1 3	1.25	0.09
									Lupinus	10	10	()	1	5 4	3.12	0.23
Subtotal	43	43	0	40	3	0	100.00	0.98	Medicago	8	8	0		0 8	2.49	0.18•
									Melilotus	4	4	()		0 4	1.25	0.09
NYCTAGINACEAE									Ornithopus	3	3	0		0 3	0.93	0.07
Allionia	1	1	()	()	ŀ	0	14.29	0.02	Otholobium	2	2	0		1 0	0.62	0.05
Boerhavia	2	2	0	0	2	0	28.57	0.05	Rhynchosia	1	1	0		0 1	0.31	0.02
Oxybaphus	4	4	0	1	3	0	57.14	0.09	Robinia	1	1	0		0 1	0.31	0.02
O tytapine.										2	2	0		1 0	0.62	0.02
Subtotal	7	7	0	1	6	0	100.00	0.16	Sophora		1	0				0.03
Suototai									Spartium	1					0.31	
									Teline	1	1	0		0 !	0.31	0.02
NYMPHAEACEAE									Trifolium	23	23	0		4 15	7.17	0.52
Nymphaea	1	1	0	()	()	1	100.00	0.02	Trigonella	1	1	0		0 1	0.31	0.02
									Ulex	1	1	0		0 1	0.31	0.02
Subtotal	1	1	0	()	0	1	100.00	0.02	Vicia	37	35	2	23	7 7	11.53	0.84
OLE LOE LE									Subtotal	321	309	12	152 10	7 62	100.00	7.26
OLEACEAE							100.00	0.03								
Menodora	1	1	0	0	1	0	100.00	0.02	PASSIFLORACEAE							
									Passiflora	5	2	0	0	1 1	100.00	0.05
Subtotal	1	I	0	0	1	0	100.00	0.02								
									Subtotal	2	5	0	0	1 1	100.00	0.05
ONAGRACEAE																
Boisduvalia	1	1	0	0	1	0	2.27	0.02	PHYTOLACCACEAE							
Camissonia	2	1	1	1	1	0	4.55	0.05	Anisomeria (E)	2	2	0	2	0 0	40.00	0.05
Clarkia	4	i	3	3	1	0	9.09	0.09	Ercilla (E)	2	2	0	2	0 0	40.00	0.05
Epilobium	1.2	12	0	0	10	2	27.27	0.27	Phytolacca	1	1	0	0	1 0	20.00	0.02
Fuchsia	2	2	0	1	1	0	4.55	0.05	*							
Gayophytum	2	2	0	0	2	0	4.55	0.05	Subtotal	5	5	0	4	1 0	100.00	0.12
Ludwigia	4	4	0	0	4	0	9.09	0.09					•			0.1.
Oenothera	17	17	0	3	11	3	38.64	0.39	PIPERACEAE							
Centralia	17		0			-	50.04	0.57		4	4	()	3	1 0	100.00	0.09
Subtotal	44	40	4	8	31	5	100 00	1.01	Peperomia	4	4	()	2	1 0	100.00	0.09
300(0(4)	44	40	+	0	31	2	100 00	1.01	6.1				,		100.00	0.00
ORODANICHACEAE									Subtotal	4	4	0	3	1 0	100.00	0.09
OROBANCHACEAE			0			2	100.00	0.00								
Orohanche	4	4	0	l	}	2	100 00	0.09	PLANTAGINACEAE							
									Littorella	1	1	0		1 0	3.70	0.02
Subtotal	4	4	0	1	1	2	100.00	0.09	Plantago	26	2.2	4	6 1	6 4	96.30	0.59
OXALIĐACEAE									Subtotal	27	2.3	4	6 T	7 4	100.00	0.61
Oxalis	128	119	9	88	38	2	100.00	2.90								
									PLUMBAGINACEAE							
Subtotal	128	119	9	88	38	2	100.00	2.90	Armena	1	- 1	()	0	1 0	25.00	0.02
									Limonium	2	2	()	2 (	0 0	50.00	0.05
PAPAVERACEAE									Plumbago	1	1	()	0	0	25.00	0.02
Argemone	4	4	0	3	1	()	66.67	0.09								
Eschscholzia	1	1	0	()	0	1	16.67	0.02	Subtotal	4	4	()	2	2 0	100.00	0.09
Papaver	1	1	()	()	()	1	16 67	0.02								
									POLEMONIACEAE							
Subtotal	6	6	0	3	1	2	100.00	0.13	Collomia	2	2	()	1	0	18.18	0.05
									Gīlia	4	4	()		4 0	36.36	0.09
PAPILIONACEAE									Ipomopsis	1	i	()	()		9.09	0.02
Adesmia	138	132	6	92	46	0	42.99	3.13	Linanthus	1	1	0	1 (		9.09	
Anarthrophyllum	6	5	Ī	2	4	0	1.87	0.14	Microsteris	1	1					0.02
Astragalus	46	46	()	21	25	0	14.33	1.04	Navarretia	1		()	0		9.09	0.02
Crotalaria	40	40	0	0	0	1	0.31	0.02			1	0	()		9.09	0.02
Cytisus	2	2	0	0	0	2	0.62	0.02	Polemonium	l	1	()	()	1 0	9.09	0.02
Dalea	3	3							Colored				_			
			0	2	1	0	0.93	0.07	Subtotal	11	1.1	0	5 (	0	100.00	0.24
Desmodium	1	1	0	0	0	1	0.31	0.02								
Dolichos	1	1	0	0	()	1	0.31	0.02	POLYGALACEAE							
Errazurizia	1	1	()	1	()	0	0.31	0.02	Monnina	4	4	()	4 (	()	33.33	0.09
Galega	1	1	()	()	()	1	0.31	0.02	Polygala	8	8	()	5 3	0	66.67	0.18
Geoffroea	1	1	()	()	1	0	0.31	0.02								
Glycyrrhiza	1	1	()	()	1	()	0.31	0.02	Subtotal	12	1.2	0	9 3	()	100 00	0.27

	NT	NS	NI	EN 1	N. A	ΑD	% <b> </b> -	%D		N1	15	NI	EN I	NA.	ΑĐ	r, ş	′. [)
	(8.1	143	141	1.14	4/3	710	701	7017	<b>5</b>		4	1,		4	()		0.09
POLYGONACEAE									Discaria	4			()			765	
Bilderdykia	1	1	()	()	()	1	1.61	0.02	Retanilla	3	2	I	3	0	()		0.07
Chorizanthe	28	24	4	28	()	()	45.16	0.63	Rhamnus	1	1	')	1	()	()	< 26.4	0.02
Emex	l	1	()	()	()	l	1.61	0.02	Falguenea (E)	1	1	()	1	()	()	< 44	0.00
Koenigia	1	1	()	()	()	l	1.61	0.02	Trevoa	.5		(-)	4	1	()	29.41	0.11
Lastarriaea	1	1	()	1	()	()	1.61	0.02									
Muchlenbeckia		1	0	()	1	0	1.61	0.02	Subtotal	1.7	$\Gamma^{I_{I}}$		10	7	{}	100 00	(1.3%
	1	i	0	0	i	0	1.61	0.02									
Oxytheca			()	I	0	9	16.13	0.23	ROSACEAE								
Polygonum	10	10					29.03	0.41	Acaena	21	, 9	2	5	16	1)	14 14	0.48
Rumex	18	17	1	4	7	7	29.03	0.41	Aphanes	5	4	1	,	1		4114	0.13
											1	0	()	()			0.02
Subtotal	62	57	5	34	9	19	100 00	1.39	Duchesnea	1				17			
									Fragaria	2	1	1	U)		()	3/14	()()5
PORTULACACEAE									Geum	4	4	U	()	4	()	- : -	0.09
Calandrinia	68	64	4	43	25	()	87.18	1.54	Kageneckia	2	2	()	5	()	()	11.4	(1.1)5
Lenzia	1	1	()	0	1	()	1.28	0.02	Lachemilla	3	3	U	()	3	11	< 4<	0.07
Monocosmia	1	1	0	0	1	()	1.28	0.02	Margyricarpus	1		U	()	-	()	1.82	0.02
	2	1	1	0	2	0	2.56	0.05	Polylepis	2	2	()	()	2	()	3.64	()()<
Montia			()	3	1	0	5.13	0.09	Potentilla	1	1	()	()	()	1	1.82	0.02
Philippiamra	4	4							Quillaja	1	1	()	1	()	()	132	0.00
Portulaca	2	2	0	0	ì	1	2.56	0.05		3	3	- 0	()	()	1	4.44	() ()
									Rosa					2	2		0.09
Subtotal	78	7.3	5	46	31	l	100.00	1.77	Rubus	4	4	0	0		-		
									Sanguisorba	2	2	()	()	()		364	0 ()5
PRIMULACEAE									Tetraglochin	3	3	()	()	()	3	< 4<	11117
Anagallis	6	3	3	2	3	1	42.86	0.14									
Androsace	i	ı	0	()	1	()	7.14	0.02	Subtotal	55	5.1	4	1.1	31	13	[00.00	: 26
Lysimachia	l l	1	0	0	1	0	7.14	0.02	RUBIACEAE								
Pelletiera	1	1	()	()	1	0	7.14	0.02	Cruckshanksia	8	7	1	6	2	()	1818	0.15
Primula	1	I	()	0	1	0	7.14	0.02	Galium	2.3	22	Į	9	9	5	52.20	0.52
Samolus	4	4	()	0	- 3	1	28.57	0.09	Hedyotis	1	1	()	()	1	0	2.27	0.02
									Leptostigma	1	1	0	1	()	0	2 2 2 2	0.02
Subtotal	14	11	3	2	10	2	100.00	0.31		1	1	0	()	I	0	2.27	0.02
									Nertera								
PROTEACEAE									Oreopolus	3	3	()	2	1	0	6.32	0.07
Embothrium	1	1	()	()	1	()	16.67	0.02	Relbunium	5	2	3	()	5	()	1136	0.11
									Rubia	1	l	()	()	()	1	2.27	0.00
Gevuina	1	1	()	()	l	()	16.67	0.02	Sherardia	1	1	()	()	()	1	2.27	0.00
Lomatia	3	3	()	()	3	()	50 00	0.07									
Orites	1	}	0	1	()	0	16.67	0.02	Subtotal	44	39	<	18	19	~	100 00	() 98
Subtotal	6	6	0	1	5	0	100.00	0.13	RUTACEAE								
									Pitavia (E)	1	1	()	1	()	11	23 23	0.02
RAFFLESIACEAE									Ruta	2	2	()	()	()	2	66.67	0.05
Pilostyles	ı	1	0	0	1	0	100.00	0.02	Nuta	-	-			( )	-		
Hostyles	'	,	V	U		0	100.00	0.02	Subtotal	3	3	0	1		2	100 00	00
C 1 1			0	0		0	100.00	0.03	Suntotai						-		
Subtotal	1	1	0	0	1	0	100.00	0.02	CALICACITAT								
									SALICACEAE							0.00	
RANUNCULACEAE									Populus	0	()	D		()	(1		0.00
Anemone	7	6	1	3	4	0	14.89	0.16	Salix	;	ì	10	()	1	-	100 00	0.11
Aquilegia	1	1	()	0	0	l	2.13	0.02									
Barneoudia	3	3	0	1	2	0	6.38	0.07	Subtotal	;	3	- 0	()	1	-	100.00	0.0
Caltha	3	3	()	0	3	0	6.38	0.07									
Clematis	1	1	()	0	0	1	2.13		SANTALACEAE								
Hamadryas	4	4	0	0	4	0	8.51	0.09	Arjona	3	1		()	3		13.64	U-11-
								0.05	Myoschilos		1	D	()	1	1.1	155	11.00
Myosurus	2	2	0	0	2	()	4.26					11		i		4 55	
Ranunculus	26	2.2	4	0	21	5	55.32	0.59	Nanodea								
									Quinchamalium	1 -	16		14	.3		11/21	(1.34)
Subtotal	47	42	5	4	36	7	100 00	1.07			,					1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
									Subtotal	2.2			14	8	11	100.00	(1 5 )
RESEDACEAE																	
Reseda	I	1	()	0	()	1	100.00	0.02	SAPINDACEAE								
									Bridgesia	i		++	()	1	()		0.02
Subtotal	1	1	()	0	()	1	100 00	0.02	Dodonaea			,)	()	()	1	25 (10)	0.00
Summa	1	1	U	U	U	- 1	100 00	000	Guindilia		1	()	()	1	()	25 00	0.02
DILLANDIACEAE									Llagunoa (F)	i	1	()		1)-	()		0.02
RHAMNACEAE	_	_						0.05	***************************************		,	.,,	,			_	
Colletia	2	2	()	1	- 1	()	11.76		Subtotal	4	4	D	1	2	1	100.00	0.08
Condalia (Chile?)	1	1	()	()	}	0	5.88	0.02	Suviolai	+	4		1	-	1	1.4700	17-17-3

	NT	NS	NI	EN	NA	AD	%F	%D		NT	NS	NI	EN 1	NA	AD	% F	%D
SAPOTACEAE						_			Dunalia	1	1	0	0	1	0	0.64	0.02
Pouteria	1	1	0	1	0	0	100.00	0.02	Fabiana	7	7	0	2	5	0	4.46	0.16
									Grabowskia	1	1	0	1	0	0	0.64	0.02
Subtotal	1	1	0	1	0	0	100.00	0.02	Jaborosa	10	9	1	2	8	0	6.37	0.23
									Latua (E)	1	1	0	1	0	0	0.64	0.02
SAXIFRAGACEAE									Lycianthes	1	1	0	0	]	0	0.64	0.02
Chrysosplenium	2	2	0	0	2	0	3.92	0.05	Lycium	13	9	4	3	10	0	8.28	0.29
Escallonia	22	13	9	1.2	10	0	43.14	0.50	Lycopersicon	ì	1	0	0	1	0	0.64	0.02
Francoa (E)	3	1	2	3	0	0	5.88	0.07	Nicandra	1	1	0	0	1	0	0.64	0.02
Lepuropetalon	1	1	0	0	1	0	1.96	0.02	Nicotiana	14	11	3	6	7	1	8.92	0.32
Ribes	16	13	3	9	7	0	31.37	0.36	Nierembergia	1	1	0	0	1	0	0.64	0.02
Saxifraga	2	2	0	0	1	1	3.92	0.05	Petunia	1	1	0	0	0	1	0.64	0.02
Saxifragella	1	1	0	0	1	0	1.96	0.02	Phrodus (E)	1	1	0	1	0	0	0.64	0.02
Saxifragodes	1	1	0	0	1	0	1.96	0.02	Physalis	3	3	0	0	0	3	1.91	0.0
Tetilla (E)	1	1	0	1	0	0	1.96	0.02	Reyesia	4	4	0	3	1	0	2.55	0.09
Tribeles	1	1	0	0	1	0	1.96	0.02	Salpichroa	1	1	0	0	1	0	0.64	0.02
Valdivia (E)	1	1	0	1	0	0	1.96	0.02	Salpiglossis	2	2	0	1	1	0	1.27	0.03
									Schizanthus	12	12	0	11	1	0	7.64	0.2
Subtotal	51	37	14	26	24	1	100.00	1.15	Solanum	69	55	14	33	32	4	43.95	1.56
									Vestia (E)	1	l	0	1	0	0	0.64	0.02
SCROPHULARIACEA	λE																
Agalinis	1	1	0	0	1	0	0.55	0.02	Subtotal	157	135	22	67	78	12	100.00	3.54
Alonsoa	1	1	0	0	1	0	0.55	0.02									
Bacopa	1	1	0	0	1	0	0.55	0.02	STERCULIACEAE								
Bartsia	3	3	0	1	2	0	1.65	0.07	Waltheria	1	1	0	0	0	1	100.00	0.02
Bellardia	1	1	0	0	0	1	0.55	0.02									
Calceolaria	92	80	12	65	26	1	50.55	2.08	Subtotal	1	1	0	0	0	1	100.00	0.02
Castilleja	2	2	0	0	2	0	1.10	0.05									
Cymbalaria	1	1	0	0	0	1	0.55	0.02	STYLIDIACEAE								
Digitalis	1	1	0	0	0	1	0.55	0.02	Phyllachne	1	1	0	0	1	0	100.00	0.02
Euphrasia	15	15	0	1.1	4	0	8.24	0.34									
Fonkia	1	i	0	0	1	0	0.55	0.02	Subtotal	1	1	0	0	1	0	100.00	0.02
Gratiola	1	ŀ	0	0	1	0	0.55	0.02									
Hebe	2	2	0	0	2	0	1.10	0.05	TETRACHONDRACEA	E							
Jovellana	3	3	0	3	0	0	1.65	0.07	Tetrachondra	- 1	1	0	0	1	0	100.00	0.02
Kickxia	1	1	0	0	0	1	0.55	0.02									
Limosella	1	1	0	0	1	0	0.55	0.02	Subtotal	1	1	0	0	I	0	100.00	0.02
Linaria	2	2	0	0	0	2	1.10	0.05									
Lindernia	1	1	0	0	1	0	0.55	0.02	milioner i e i ce i e								
Mecardonia	1	1	0	0	1	0	0.55	0.02	THYMELAEACEAE								
Melosperma	2	1	1	0	2	0	1.10	0.05	Drapetes	1	1	0	0	1	0	33.33	0.02
Mimulus	14	8	6	10	4	0	7.69	0.32	Ovidia	2	2	0	1	1	0	66.67	0.03
Misopates	1	1	0	0	0	1	0.55	0.02									
Monttea	2	1	1	2	0	0	1.10	0.05	Subtotal	3	3	0	1	2	0	100.00	0.07
Orthocarpus	2	2	0	0	2	0	1.10	0.05									
Ourisia	13	13	0	3		0	7.14	0.29	TROPAEOLACEAE								
Parentucellia	2	2	0	0		2	1.10	0.05	Tropaeolum	18	18	0	15	2	1	100.00	0.41
Scrophularia	1	1	0	0	0	ī	0.55	0.02									
Stemodia	1	1	0	0	1	0	0.55	0.02	Subtotal	18	18	0	15	2	i	100.00	0.41
Verhascum	3	3	0	G	0	3	1.65	0.07									
Veronica	10	9	1	0		10	5.49	0.23	UMBELLIFERAE								
									Ammi	ì	1	0	0	()	1	0.93	0.02
Subtotal	182	161	21	95	63	24	100.00	4.12	Anthriscus	ļ	1	0	0	0	1	0.93	0.02
	, 02	101					,		Apium	10	9	1	3	5	2	9.26	0.23
									Asteriscium	4	4	0	4	0	0	3.70	0.09
SIMAROUBACEAE									Azorella	14	14	0	1	13	0	12.96	0.32
Ailanthus	1		0	0	0	1	100.00	0.02	Bolax	2	2	0	0	2	0	1.85	0.05
									Bowlesia	6	6	0	3	3	0	5.56	0.14
Subtotal	1	1	()	0	0	1	100.00	0.02	Centella	1	l	0	1	0	0	0.93	0.02
									Conium	1	1	()	0	()	1	0.93	0.02
SOLANACEAE									Daucus	4	4	0	0	2	2	3.70	0.09
Benthamiella	4	4	0	0	4	0	2.55	0.09	Diposis	1	1	0	1	0	0	0.93	0.02
Cacabus	2	2	0	1	1	0	1.27	0.05	Domeykoa	2	2	0	2	0	0	1.85	0.05
Cestrum	- 1	1	0	0	1	0	0.64	0.02	Eremocharis	1	}	0	1	0	0	0.93	0.02
Combera	2	2	0	1	1	()	1.27	0.05	Eryngium	10	10	0	8	2	0	9.26	0.23
Datura	3	3	0	()	0	3	191	0.07	Foeniculum	1	1	0	0	0	1	0.93	0.02
Datura	3	3	0	()	0	3	191	0.07	roeniculum	ı	1	()	0	U	1	0.93	

	NT	NS	NI	EN	NA	ΑĐ	%F	%[)		NT	NS	NI	EN	NA	ΑĐ	of F	%D
Gymnophyton	5	5	()	5	0	0	4.63	0.11	Cissarobryon (E)	1	1	()	1	0	0	20.00	0.02
Homalocarpus (E)	6	6	0	6	()	0	5.56	0.14	Viviania	3	3	0	2	1	()	60.00	0.07
Huanaca	4	4	()	0	4	0	3.70	0.09									
Hydrocotyle	8	8	0	2	6	0	7.41	0.18	Subtotal	5	5	()	4	1	()	100.00	0.11
Laretia	1	1	0	0	1	0	0.93	0.02									
Lilaeopsis	1	1	0	0	1	0	0.93	0.02	WINTERACEAE								
Mulinum Oreomyrrhis	8	7 1	1	4	4	0	7.41	0.18	Drimys	3	1	2	()	3	()	100 00	0 07
Osmorhiza	3	3	0	0	3	0	2.78	0.02	6.11	,		2	()	,	()	100.00	0.07
Pastinaca	1	1	0	0	0	1	0.93	0.02	Subtotal	3	1	2	0	3	()	100.00	0.07
Pozoa	2	2	0	0	2	0	1.85	0.05									
Sanicula	2	2	0	0	2	0	1.85	0.05	ZYGOPHYLLACEAE								
Scandix	ī	1	0	0	0	i	0.93	0.02	Bulnesia	1	]	()	1	()	0	9.09	0.02
Schizeilema	1	1	0	0	1	0	0.93	0.02	Fagonia Larrea	3	2	1	1	2	()	27.27	0.07
Seseli	1	1	0	0	0	1	0.93	0.02	Metharme (E)		3	0	0	3	0	27 27	0 07
Sium	1	1	()	0	0	1	0.93	0.02	Pintoa (E)	1	1	0	1	()	0	9 09	0.02
Smyrnium	1	1	0	0	0	1	0.93	0.02	Porlieria	1	1	0	1	0	0	9 09	0.02
Torilis	2	2	0	0	0	2	1.85	0.05	Tribulus	1	1	0	()	0	1	9 09	0.02
Subtotal	108	106	2	41	52	15	100.00	2.44	Subtotal	-11	10	1	5	5	,	100 00	
URTICACEAE									-							100 00	0.24
Parietaria	3	1	2	0	3	0	18.75	0.07	Total	4414	3906	508	2182	1756	476		100 00
Pilea	2	2	0	2	0	0	12.50	0.05									
Sokirolia	1	1	0	0	0	1	6.25	0.02	MONOCOTYLED	ONE	ΔE-	EΔI	111.1	A \$	CE	NEDO	c v
Urtica	10	9	1	1	7	2	62.50	0.23	ESPECIES	ONE	-/ <b>\</b> L.	1 / 1	VIILI	113.	OL.	VLKO	5 1
Subtotal	16	13	3	3	10	3	100.00	0.37		NT	NS	NI	EN	NA	AD	%F	a‱ D
VALERIANACEAE									ALISMATACEAE								
Plectritis	1	1	0	1	0	0	2.13	0.02	Alisma	ì	1	()	()	1	()	50.00	0.08
Stangea	i	1	0	0	1	0	2.13	0.02	Sagittaria	1	1	0	1	0	()	50.00	0.08
Valeriana	43	43	0	29	14	0	91.49	0.97	Subtotal	2	2	0	1	1	()	100 00	0.16
Valerianella	2	2	0	0	0	2	4.26	0.05		_							
									AMARYLLIDACEAE								
Subtotal	47	47	0	30	15	2	100.00	1.06	Alstroemeria	42	31	1.1	37	5	()	45.65	3.54
MER DELL DELE									Bomarea	3	3	0	1	2	0	3.26	0.25
VERBENACEAE	2	,	0	2			201	0.07	Famatina	2	2	0	2	()	0	2 17	0.17
Acantholippia	3	3	0	2	1	0	3.06	0.07	Hippeastrum	24	24	0	22	2	0	26 09	2.03
Aloysia Diostea	4	3	1	4	0	0	4.08	0.09	Leontochir (E)	1	1	0	1	0	0	1 09	0.08
Junellia	32	31	1	0	21	0	1.02	0.02	Phy cella	2 7	7	0	2 7	0	0	7.61	0.17
Lampaya	32	1	0	0	- 21	0	32.65 1.02	0.72	Placea (E) Rhodophiala	9	9	0	6	3	()	9.78	0.76
Lippia	2	2	0	1	1	0	2.04	0.02	Stenomesson	1	1	0	1	0	0	1.09	0.76
Neosparton	1	1	0	0	1	0	1.02	0.03	Traubia (E)	1	1	0	1	()	0	1.09	0.08
Phyla	4	3	1	0	0	4	4.08	0.09	Trautia (L)	,	,			( )		1.07	0 00
Pitraea	1	1	0	0	1	0	1.02	0.02	Subtotal	92	81	11	80	12	()	100 00	7.75
Rhaphithamnus	1	1	0	0	1	0	1.02	0.02									
Urbania	i	i	0	0	i	0	1.02	0.02	APONOGETONACEAE								
Verbena	47	34	13		22	1	47.96	1.06	Aponogeton	1	I	()	()	()	1	100 00	0.08
Subtotal	98	82	16	42	51	5	100.00	2.20	Subtotal	I	1	0	()	()	1	100 00	0.08
VIOLACEAE									ARACEAE								
Hybanthus	1	1	0	1	()	0	(),99	0.02	Pistia	1	1	()	0	0	1	100 00	0.08
Viola	100	73	27	69	28	3	99 01	2 27	Subtotal	1	1	()	0	()	1	100 00	0.08
Subtotal	101	74	27	70	28	3	100 00	2.29	BROMELIACEAE								
VITACEAE									Deuterocohnia	1	1	()	1	()	0	4.00	0.08
VITACEAE Cissus		1	0	0		-	100.00	0.02	Fascicularia (E)	5	5	0	5	0	0	20 00	0.42
CINUN	1	1	()	()	I	()	100:00	0.02	Greigia	5	2	0	2	0	0	8.00	0.17
Subtotal	1	1	0	()	1	0	100 00	0.02	Ochagavia (e) Puva	10	7	3	10	0	0	8 00 40 00	0.17
Sactoral	ı	1	U	1)	,	U	100 00	0.0-	ruya Tillandsia	5	4	2	10	4	0	20 00	0.42
VIVIANIACEAE									rmanosia	-,	-	1		7	U	20 00	0.72
Araeoandra (E)	1	l	()	1	()	0	20.00	0.02	Subtotal	25	21	4	21	4	0	100 00	2 10
accommad (E)														•			

	NT	NS	NI	EN	NA	AD	% F	% D		NT	NS	NI	EN NA	AD	%F	%
CENTROLEPIDACEA	ΛE								Cynodon	 6	6	0	- 1	4 1	1.01	0.5
Gaimardia	1	1	0	0	1	0	100.00	0.08	Cynosurus	2	2	0	0	0 2	0.34	0.
									Dactylis	1	1	0	0	0 1	0.17	0.0
Subtotal	1	1	0	0	1	0	100.00	0.08	Danthonia	10	9	1	6	4 0	1.68	0.8
									Deschampsia	20	17	3	7 1	2 1	3.36	1.0
COMMELINACEAE									Desmazeria	1	1	0	. 0	0 1	0.17	0.0
Tradescantia	1	1	0	0	0	1	100.00	80.0	Deyeuxia	23	22	1	3 2	0 0	3.87	1.9
									Dichanthelium	1	i	0	0	1 0	0.17	0.0
Subtotal	1	1	0	0	0	1	100.00	0.08	Dielsiochloa	1	1	0	0	1 0	0.17	0.0
									Digitaria	3	3	0	0	0 3	0.50	0
CORSIACEAE									Diplachne	3	3	0	0	3 0	0.50	0
Arachnitis	1	1	()	0	1	0	100.00	0.08	Dissanthelium	1	1	0	0	1 0	0.17	0.0
									Distichlis	5	3	2	0	5 0	0.84	0.4
Subtotal	1	1	0	0	ł	0	100.00	0.08	Echinochloa	6	4	2	0	0 6	1.01	0.:
									Ehrharta	1	1	0	0	0 1	0.17	0.0
CYPERACEAE									Eleusine	1	1	0	0	0 1	0.17	0.0
Bulbostylis	1	1	0	0	1	0	0.57	0.08	Elymus	21	21	0	11 1	0 0	3.53	1.
Carex	79	55	24	16	62	1	45.14	6.67	Elytrigia	j	1	0	0	0 1	0.17	0.6
Carpha	1	1	0	0	1	0	0.57	0.08	Enneapogon	1	1	0	0	1 0	0.17	0.0
Cyperus	29	26	3	5	16	8	16.57	2.45	Eragrostis	10	10	0	0	6 4	1.68	0.8
Eleocharis	19	19	0	1	15	3	10.86	1.60	Eriochloa	2	2	0	0	0 2	0.34	0.
Oreobolus	1	1	0	0	1	0	0.57	0.08	Eustachys	1	1	0	0	0 1	0.17	0.
Rhynchospora	1	1	0	0	1	0	0.57	80.0	Festuca	28	28	0	5 1	9 4	4.71	2.
Schoenus	4	4	0	1	3	0	2.29	0.34	Gastridium	2	2	0	0	0 2	0.34	0.
Scirpus	25	20	5	5	18	2	14.29	2.11	Glyceria	2	2	0	0	1 1	0.34	0.
Uncinia	15	10	5	4	11	0	8.57	1.27	Gymnachne (E)	1	1	0	1	0 0	0.17	0.0
									Gynerium	1	1	0	0	0 1	0.17	0.0
Subtotal	175	138	37	32	129	14	100.00	14.76	Hainardia	1	i	0	0	0 1	0.17	0.0
									Helictotrichon	1	- 1	0	0	1 0	0.17	0.0
DIOSCOREACEAE									Holcus	2	2	0	0	0 2	0.34	0.
Dioscorea	46	41	5	45	1	0	93.88	3.88	Hordeum	18	15	3	0 1	4 4	3.03	1:
Epipetrum (E)	3	3	0	3	0	0	6.12	0.25	Imperata	4	4	0	1	3 0	0.67	0
									Koeleria	2	2	0	0	2 0	0.34	0.
Subtotal	49	44	5	48	1	0	100.00	4.13	Lagurus	1	1	0	0	0 1	0.17	0.0
									Lamarckia	1	1	0	0	0 1	0.17	0.0
GRAMINEAE									Leptophyllochloa	1	1	0	0	1 0	0.17	0.0
Agrostis	33	31	2	7	19	7	5.55	2.78	Leymus	1	1	0	0	0 1	0.17	0.0
Aira	3	3	0	0	0	3	0.50	0.25	Lolium	5	5	0	0	0 5	0.84	0.4
Alopecurus	8	7	1	2	3	3	1.34	0.68	Lophochloa	1	1	0	0	1 0	0.17	0.0
Ammophila	1	}	()	0	0	1	0.17	0.08	Melica	7	7	0	7	0 0	1.18	0.5
Amphibromus	1	1	()	0	1	0	0.17	0.08	Microchloa	1	1	0	0	0 1	0.17	0.0
Anthochloa	1	1	0	()	1	0	0.17	0.08	Miscanthus	1	1	0	0	0 1	0.17	0.0
Anthoxanthum	8	8	()	2	5	1	1.34	0.68	Muhlenbergia	3	3	0	0	3 0	0.50	0
Apera	1	1	0	()	0	1	0.17	0.08	Munroa	2	2	0	0	2 0	0.34	0.1
Aristida	4	3	j	0	3	1	0.67	0.34	Nassella	11	10	î	5	5 0	1.85	0.0
Arrhenatherum	2	1	1	()	0	2	0.34	0.17	Neobouteloua	1	1	0	0	1 0	0.17	0.0
Arundo	1	1	()	()	0	1	0.17	80.0	Panicum	4	4	0	0	2 2	0.67	0
Avena	5	5	0	()	0	5	0.84	0.42	Parapholis	2	2	0	0	0 2	0.34	().
Bothriochloa	3	3	0	()	0	.3	0.50	0.25	Parodiochloa	1	1	0	0	1 0	0.17	0.0
Bouteloua	1	1	()	()	1	0	0.17	0.08	Paspalum	7	7	0	0	5 2	1.18	0.:
Brachy podium	1	1	()	()	()	1	0.17	0.08	Pennisetum	3	3	0	0	1 2	0.50	0
Briza	2	2	()	()	()	2	0.34	0.17	Phalaris	7	7	0	0	2 5	1.18	0 :
Bromelica	L	]	U	()	1	()	0.17	0.08	Phleum	2	2	0	0	) 2	0.34	0.1
Bromidium	2	2	()	1	1	0	0.34	0.17	Phragmites	1	1	0		0	0.17	0.0
Bromus	27	24	3	2	12	1.3	4.54	2.28	Piptatherum	1	1	0		) 1	0.17	0.0
alamagrostis	7	7	()	()	6	1	1.18	0.59	Piptochaetium	8	7	1		5 0	1.34	0.6
alotheca	1	-	()	()	1	()	0.17	0.08	Poa	69	68	1	30 3		11.60	5 1
atabrosa	2	2	()	()	1	1	0.34	0.17	Podagrostis	1	1	0	0		0.17	0.0
enchrus.	4	4	()	0	()	4	0.67	0.34	Polypogon	8	8	0		3 4	1.34	0.6
haetotropis	3	3	()	0	3	()	0.50	0.25	Puccinellia	11	11	0		3 0	1.85	0.
	1	1	()	()	- }	()	0.17	0.08	Raimundochloa	1	1	0		. 0	0.17	0.0
hascolytrum	3	3	()	()	()	3	0.50	0.25	Reichela	1	1	0	0		0.17	0.0
									1300011010			17	.,,		0.17	.,,,
Chloris	11	11	()	7	4	0	1.85	0.93	Rhombolytrum	1	1	Ω	1 4	) 0	0.17	0.6
Chloris Chusquea		1 1	0	7 1	4	0	1.85 0.17	0.93	Rhombolytrum Rytidosperma	1	1	0		0 0	0.17	
Chascolytrum Chloris Chusquea Cinna Cortaderia	11								Rhombolytrum Rytidosperma Schismus	1 4 2	1 4 2	0 0 0	0 -	0	0.17 0.67 0.34	0.0

	NT	NS	NI	EN	NA	AD	%, ∤-	of, D		NI	15	<b>\1</b>	EN	NA	A[)	15, F-	4,[)
Setaria	5	5	0	()		4	0.84	0.42	LILIACEAE								
Sorghum	2	2	()	0	()	2	0.34	0.17	Allium	1	1	f)			1	. (4)	() ()k
Spartina	1	1	()	0	1	()	0.17	0.08	Ancrumia	-	1	{}			()		0.08
Sporobolus	3	3	0	()	1	2	0.50	0.25	Asphodelus	1	1	()			1		() ()×
Stenotaphrum	1	1	0	0	0		0.17	0.08	Astelia	1	1	()	1.6		()	. 111	0.08
Stipa	43	43	0	10	33	0	7.23	3.63	Erinna (E)	1	1	()			U	11,	()()%
Taeniatherum	- 1	1	0	0	()	1	0.17	0.08	Fortunatia	2	2	()			()	41,	0.17
Trichloris	1	1	0	0	1	()	0.17	0.08	Garaventia (E)	1	1	()			()	. 10	()-()%
Trichoneura	1	1	0	()	1	0	0.17	0.08	Gethyum (E)	1	1	()			()	f ,	() ()>
Tripogon	1	1	0	0	- 1	0	0.17	0.08	Gilliesia (E)	5	5	()			()	1	0.42
Trisetum	25	1.8	7	13	12	0	4.20	2.11	Неггена	!	1	()			()		0.08
Vahlodea	1	1	0	0	0	1	0.17	0.08	Ipheion	1	1	()			()		() ()×
Vulpia	7	6	1	0	- 3	4	1.18	0.59	Leucocory ne (E)	. 2	1				()	. 4 .	1.01
									Miersia	3	3	()			()	,	0.25
Subtotal	595	561	34	131	313	151	100.00	50.01	Nothoscordum	6	6	()			1		0.51
									Pabellonia (E)	2	2	()			()	4	0.17
HYDROCHARITAC	EAE								Pasithea	2	1	]			()	4 -	0.17
Egeria	1	1	0	0	0	1	25.00	0.08	Solaria	1	1	()			()	. 0	0.0%
Elodea	2	2	0	0	1	1	50.00	0.17	Speea (E)	2	2	()	-		()	4 0	0.17
Limnobium	1	1	()	0	0	1	25.00	0.08	Trichopetalum (E)	1	L	()		1.	0	-	0.0%
Diffino Country							20.00		Fristagma	4	3	1	-		0		
Subtotal	4	4	0	0	1	3	100.00	0.33	Zoellnerallium	1	1	()			0		0.0%
Subtotal	-	7		0			100.00	0.55	2x cinicianiani	,	,						
IRIDACEAE									Subtotal	50	47		3%			orbit	4.17
Calydorea (E)	1	1	0	1	0	0	2.63	0.08	Sumai	210			277				41.
Calydorea (E) Chamelum	1	1	0	0	1	0	2.63	0.08	LIMNOCHARITACEAE								
Herbertia	1	1	0		1	0			Hydrocleys					1		11	71.111
	4	4	0	0			2.63	0.08	nydrocleys	1	1	,	- 1.	,			()-()%
Libertia	1				1	0	10.53	0.34	Subtotal			0		L)		4       i	m.
Mastigostyla		2	0	()	1	0	2.63	0.08	Suototai								
Phaiophleps	3		1	1	2	0	7.89	0.25	ORCHIDACEAE								
Sisyrinchium	21	13	8	11	10	0	55.26	1.77	Aa	1	ī	0		()	1	11.	( ) k
Solenomelus	2	2	0	1	1	0	5.26	0.17	Bipinnula	4	4	0	4	0			0.14
Tapeinia	2	2	()	0	2	0	5.26	0.17		i	;	0		1	1	103	11111
Tigridia	1	1	0	1	0	0	2.63	0.08	Brachystele	29	2			10		- ! '	2.45
Tritonia	1	1	0	()	0	1	2.63	0.08	Chloraea			0	,				nii.
									Codonorchis	1				-	"	2.13	
Subtotal	38	29	9	18	19	1	100.00	3.18	Gavilea	10	10	31	3		,	2.2	11111
									Навепагіа	1	1	5.1	()			2 3	
JUNCACEAE									Subtotal	4-	46	1	~ ~	20			1 45
Distichia	2	2	0	()	2	()	3.77	0.17	Subtotal	4	4"		~	- "			
Juneus	38	28	10	5	3.3	()	71.70	3.21	PALMAE								
Luzula	7	6	1	2	5	0	13.21	0.59				1.)					0.60
Marsippospermum	3	3	()	0	3	0	5 66	0.25	Jubaea (E)	,		.,,				•	0.07
Oxychloe	1	- 1	()	()	1	()	1.89	0.08	Subtotal		1			,			0.08
Patosia	1	-	0	0	1	0	1.89	0.08	1700000000								
Rostkovia	1	1	0	0	1	0	1.89	0.08	PHILESIACEAE								
					-							1		(1			0.6%
Subtotal	53	42	11	7	46	0	100.00	4.46	Lapageria (E)	;		0		2			0.25
									Philesia					1		:	0.05
JUNCAGINACEAE									FILITICNIA					,			
Tetroncium	1	1	0	0	1	0	25.00	0.08	Subtotal		4		-	3		J	0.41
Triglochin	3	3	0	0	3	0	75.00	0.25									
									PONTEDERIACEAE								
Subtotal	4	4	0	0	4	0	100.00	0.33	Eichhomia								
									Elchholma							25.1	0.08
LEMNACEAE									Colored								64
Lemna	3	3	0	0	3	0	50 00	0.25	Subtotal				1)			1 1	0.08
Spirodela	2	2	0	0	2	0	33.33		DOTA MOVE TONA OF A								
Wolffiella	1	Ī	0	0	1	0		0.08,	POTAMOGETONACEAE								
									Potamogeton	*	,			*		н -	0.76
Subtotal	6	6	0	0	6	0	100.00	0.50	Subtotal		,			,		1811	0.7/
Suotomi	()	U	U	U	- 0	U	100.00	0.20	APRIL STREET					•		TRIT	0.76
LILAEACEAE									RESTIONACEAE								
Lilaea	1	1	()	()	1	0	100.00	0.05	Leptocarpus					l)		100.00	0.00
Lilaca	1	1	U	U	1	U	100.00	0.00	Lep to carp at			,		1)	11	100 00	0.08
Subtotal	1	1	0	0	1	Ω	100 00	20.0	Subtotal							100.00	0.00
Sautotal	1	ı	U	U	1	U	100.00	0.00	Suctom						П	100 00	0.08

	NT	NS	NI	EN I	NA	AD	%F	%D
RUPPIACEAE			0			0	100.00	0.17
Ruppia	2	2	0	1	1	U	100.00	0.17
Subtotal	2	2	0	1	1	0	100.00	0.17
TECOPHILAEACEAE								
Conanthera (E)	11	1.1	0	11	0	0	73.33	0.93
Tecophilaea (E)	3	2	1	3	0	0	20.00	0.25
Zephyra (E)	1	1	0	1	0	0	6.67	0.08
Subtotal	15	14	I	15	0	0	100.00	1.26
TYPHACEAE								
Typha	2	2	0	0	2	0	100.00	0.17
Subtotal	2	2	0	0	2	0	100.00	0.17
ZANNICHELLIACEA	=							
Zannichellia	1	1	0	0	1	0	100.00	0.08
Subtotal	1	1	0	0	1	0	100.00	0.08
ZOSTERACEAE								
Heterozostera	1	1	0	0	1	0	100.00	0.08
Subtotal	1	1	0	0	1	0	100.00	0.08
Total	1185	1069	116	424	584	177		100.00

### RESUMEN DE LA FLORA VASCULAR DE CHILE CONTINENTAL

	NF	NG	GE	NT	NS	NI	EN	NA	AD	%F
PTERI	18	42	0	124	114	10	19	101	4	2.16
GYMNO	4	9	1	16	16	0	5	11	0	0.28
DICOT	132	743	46	4414	3906	508	2182	1756	476	76.93
MONOC	30	214	20	1185	1069	116	424	584	177	20.66
Total	184	1008	67	5739	5105	634	2630	2452	657	100.00

### PORCENTAJES DE ENDEMICAS, NATIVAS Y ADVENTICIAS

	En:	la flora	total	En la división o cl			
	EN	NA	AD	EN	NA	AD	
PTERI	0.33	1.76	0.07	15.32	81.45	3.24	
GYMNO	0.09	0.19	0.00	31.25	68.75	0.00	
DICOT	38.02	30.60	8.29	49.43	39.78	10.78	
MONOC	7.39	10.18	3 08	35.78	49.28	14.94	
Total	45.83	42.73	11.44				

## Las siguientes son las familias con NT mayor de 100 en la flora de Chile continental

FAM	NT	% de la flora
COMPOSITAE	1033	18.00
GRAMINEAE	595	10.37
PAPILIONACEAE	321	5.59
CACTACEAE	250	4.36
CRUCIFERAE	222	3.87
SCROPHULARIACEAE	182	3.17
CYPERACEAE	175	3.05
SOLANACEAE	157	2.74
MALVACEAE	132	2.30
OXALIDACEAE	128	2.23
BORAGINACEAE	116	2.02
UMBELLIFERAE	108	1.88
CARYOPHYLLACEAE	103	1.79
VIOLACEAE	101	1.76

#### Los 10 géneros con mayor NT son:

Senecio	COMPOS	252
Adesmia	PAPILI	138
Neoporteria	CACTAC	133
Oxalis	OXALID	128
Viola	VIOLAC	100
Calceolaria	SCROPH	92
Carex	CYPERA	79
Solanum	SOLANA	69
Poa	GRAMIN	69
Calandrinia	PORTUL	68

El número de géneros con determinado NT se muestra en la siguiente tabla:

NT	Número de géneros	0%
1	496	49.21
2	151	14.98
3	67	6.65
4	61	6.05
5	35	1.78
6	18	3.47
7	22	1.78
8	20	2.18
9	8	0.79
10	16	etc
! 1	8	
12	10	
13	4	
14	7	
15	3	
16	1	
17	4	
18	4	
19	3	
20	3	
21-50	52	
51-100	10	

> 100

FAMILIA ENDEMICA: Gomortegaceae.	FAM	NG GE	NT	NS	NI	EN	NA	ΑD	æ[)	45,1
GENEROS ENDEMICOS:	DRYOPT	6 0	-	t.	1	1	3	()	12.28	1.86
PTERIDOPHYTA	GLEICH	1 0	à	3	П	1	2		5.26	0.80
	HYMENO	4 0	18	17.			13	()	31.58	479
HYMENOPHYLLACEAE: Hymenoglossum (e)	LOPHOS	1 ()	1	1	L)	()	1	()	1.75	() 2"
GYMNOSPERMAE	LYCOPO	1 0	2		()	()	-	()	3.51	0.53
PODOCARPACEAE: Lepidothamnus.	OPHIOG	1 0	ŀ		()	1	()	()		() 27
TODOCARTACEAE. Ecpinominanas.	POLYPO	3 ()	4	4	1	1	4	()	8 77	1 33
DICOTYLEDONEAE	Total	26 1	67			23	14	0.1	tora (iro	15.17
CACTACEAE: Copiapoa, Eriosyce.	10(a)	20 1	37		-4	- '	14	- 0	(TENTAN)	12.1
Caesalpiniaceae: Balsamocarpon.										
CAMPANULACEAE: Cyphocarpus.	DICOTYL	EDONE	٩E							
CARYOPHYLLACEAE: Microphyes.	FAM	NG GE	NT	NS	1	1	11	11)	15 [)	.5,1
Compositae: Acrisione, Calopappus, Gypothamnium, Lepto-										
carpha, Marticorenia, Moscharia, Oxyphyllum, Pleocarphus,	AIZOAC	1 0	1	1	()	()	0	1	0.39	0.27
Podanthus.	AMARAN	1 0	2	2	()	11)	()	-	0 7	(1 5 3
CRUCIFERAE: Agallis, Hollermayera, Ivania.	APOCYN	1 ()	1		()	()	()	1	0.39	0.27
EUPHORBIACEAE: Adenopeltis, Avellanita.	BERBER	1 ()	3			3	()	()		() -()
GESNERIACEAE: Sarmienta.	BORAGI	2 1	2	_		t	0	ì	() 7 +	() < 1
GOMORTEGACEAE: Gomortega.	CALLIT	1 0		1			1	()		0.27
LARDIZABALACEAE: Lardizabala,	CAMPAN	2 0	8				1	1	113	213
Loasaceae: Scyphanthus.	CARYOP CHENOP	7 0 2 0	7	10	1	3	1	3	276	186
LORANTHACEAE: Desmaria, Notanthera.	COMPOS	32 5		57			5		22 44	15 16
MALPIGHIACEAE: Dinemagonum, Dinemandra.	CONVOL	3 0	3				7	1	115	0.80
MONIMIACEAE: Peumus.	CRUCIF	6 0		10		1	2	-	3.94	2.66
MYRTACEAE: Legrandia.	DIPSAC	1 0	1		()		()	1	() 39	0.27
NOLANACEAE: Alona,	ELAEOC	2 0	2	2	()	0	()	2	() ~9	0.53
	<b>EMPETR</b>	1 0	1	1	()	()	1	()	() 39	0.27
PHYTOLACCACEAE: Anisomeria, Ercilla.	<b>ERICAC</b>	1 0	1	1	()	1	0	0	() 39	0.27
RHAMNACEAE: Talguenea.	EUPHOR	2 0	3	3	()	1	()	2	1.18	() 5()
RUTACEAE: Pitavia.	FLACOU	1 0		1		1	()	()		0.27
SAPINDACEAE: Llagunoa.	FUMARI	1 0	1	-	()	()	()	1		0.27
SAXIFRAGACEAE: Francoa, Tetilla, Valdivia.	GENTIA	1 0		1			()	1		() 27
SOLANACEAE: Latua, Phrodus, Vestia.	GERANI	2 0	3			()	()	3	1.18	0.80
Umbelliferae: Homalocarpus.	GUNNER	1 0	6			6	0	0	2.36	1.60
VIVIANIACEAE: Araeoandra, Cissarobryon.	HALORA	4 0	3 6	_		.5	0	1	2.36	1.60
Zygophyllaceae: Metharme, Pintoa.	LABIAT LACTOR (E)	1 1	1			1	0	0		0.27
MONOCOTYLEDONEAE	LARDIZ	1 0		i			0	1	0.39	0.27
AMARYLLIDACEAE: Leontochir, Placea, Traubia.	LINACE	1 0	1		()	()	()	1	() 39	0.27
	LORANT	2 ()		2	()	()	1	1	() ~Q	(1.5.3
BROMELIACEAE: Fascicularia, Ochagavia (e).	LYTHRA	1 ()	1	1	()	()	O	1	0.39	() 27
DIOSCOREACEAE: Epipetrum.	MALVAC	3 ()	4	4	()	()	()	4	157	1 (16
GRAMINEAE: Gymnachne.	MIMOSA	1 0	1	1	()	()	()	1	() 34	0.27
IRIDACEAE: Calydorea.	MYRTAC	3 ()	5				1	1	147	1 33
LILIACEAE: Erinna, Garaventia, Gethyum, Gilliesia, Leuco-	ONAGRA	1 0	-	2			O	2	() 7	(1 < 3
coryne, Pabellonia, Speea, Trichopetalum.	OXALID	1 0	2		()	0	0	2	0.79	0.53
PALMAE: Jubaea.	PAPILI	5 ()	11		1	3	0		4 33	2 /3
PHILESIACEAE: Lapageria.	PHY TOL	1 0	1		()	()	0	1	0.39	0.21
Tecophilaeaceae: Conanthera, Tecophilaea, Zephyra.	PIPERA PLANTA	1 0	6	4 5	()		2	0	2.36	133
	POLEMO	2 0	2	2	()	0	2	()	() =12	0.53
POTADIOTICA DE LA FLODA MASCAMAR DE MANA	POLYGO	2 0	6		0	()	0	4	2 30	į 60
ESTADISTICA DE LA FLORA VASCULAR DE JUAN	PORTUL.	1 0	1		(1	0	1	n	0.34	0.27
FERNANDEZ: FAMILIAS	PRIMUL	1 ()	2	2	()	0	0	2	(1 =4	0.53
	RANUNC	2 0	3	3	(1	1	()	2	1.18	0.80
PTERIDOPHYTA	RHAMNA	1 0	1	1	()	1	()	0	0.39	(127
	ROSACE	5 1	8	8	()	3	2	3	3.15	2.13
FAM NG GE NT NS NI EN NA AD %D %F	RUBIAC	4 ()	6	6	()	3	2	1	2.36	1 6()
ADIANT 2 0 5 5 0 2 2 0 077	RUTACE	2 ()	3	3	{}	2	()	1	1.18	() 5()
ADIANT 3 0 5 5 0 2 3 0 8.77 1.33	SANTAL	[ ()	1	Ì	()	1	()	0	() 39	0.27
ASPLEN 1 0 4 4 0 2 2 0 7.02 1.06 BLECHN 1 0 6 6 0 4 2 0 10.53 1.60	SAXIFR	1 0	1	1	()	1	()	0	0.39	0.27
BLECHN 1 0 6 6 0 4 2 0 10.53 1.60 DENNST 2 0 2 2 0 0 2 0 3.51 0.53	SCROPH	4 ()	6	6	(1	2	()	4	2.36	1.60
DICKSO 2 1 3 3 0 3 0 0 5.26 0.80	SOLANA	5 ()	9	9	()	3	1	5	3.54	2.39
2 1 3 3 0 3 0 0 3.20 0 80	TROPAE	1 ()	1	1	O	0	()	1	0.39	0.27

CRITCA       3       0       7       6       1       4       3       0       2.76       1.80         VERBEN       2       0       2       2       0       1       0       7       9       0.53       Rumohra       1       1       0       1       0       0       1.429       1.75         WINTER       1       0       1       0       0       0.39       0.27       Subtotal       7       6       1       4       3       0       100.00       12.26         Total       148       8       254       245       9       99       32       123       100.00       67.67       GLEICHENIACEAE	FAM	NG	GE	NT	NS	NI	EN	NA	ΑD	% D	%			NT	NS	NI	EN N	Α	AD	%F	%D
RESTICA   3   0   7   6   1   4   3   0   2.76   1.86   Membras   1   1   0   1   0   0   0   1.429   1.75     RESTIN   1   0   1   1   0   1   0   0   0   0	L'MRELL	10	0	16	16	0	5	2	9	6.30	4.26	<del>-</del>	Megalastrum	2	1	1	i	1	0	28.57	3.51
Membrane													Polystichum	1	1	0	1	0	0	14.29	1.75
MINOTOCOTYLEDONEAE		,			1								Rumohra	1	}	0	1	0	0	14.29	1.75
Total		1			1																
MONOCOTYLEDONEAE  FAM	MINIER												Subtota!	7	6	1	4	3	0	100.00	12.26
Gelcienia 3 3 0 0 1 2 0 10000 526  FAM NG GE NI NS NI EN NA AD %D %D  FAM NG GE NI NS NI EN NA AD %D %D  FROMEL 2 0 2 0 0 0 30.8 0.33  FROMEL 2 0 0 2 0 0 0 30.8 0.33  FROMEL 2 0 0 1 1 0 0 0 1 0 0 0 3.4  FROMEL 2 0 0 1 1 0 0 0 1 0 0 0 1.54  FROMEL 2 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Total	148	8	254	245	9	99	32	123 1	00.00	67.67	7	GLEICHENIACEAE								
FAM														3	3	0	1	2	0	100.00	5.26
FAM	MONOCO	TYLI	EDC	NE	AE.								Subtotal	3	3	0	1	2	0	100.00	5.26
BROME    2   0   2   2   0   0   0   308   0.53   Hymeophysis   1   1   0   0   1   0   5.56   1.75						NI I	FN	NA	AD	%D	% F	2			,	Ü	,	2		100.00	5.20
BROMEL 2 0 2 2 0 0 3 08 0.53 CYPERA 7 0 13 13 0 4 8 1 1000 346 CYPERA 7 0 13 13 0 4 8 1 1000 346 CRANIN 25 2 41 41 0 6 7 28 6308 1090 CRANIN 25 2 41 41 0 6 7 28 6308 1090 CRANIN 25 2 41 41 0 6 1 7 28 6308 1090 CREDIO 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1	1 (2.8)	, , ,	0.0		110											0	0	,	0	6 5 6	1 76
CYPERA 7 0 13 13 0 4 8 1 2000 346 GRANIN 25 2 41 41 0 6 7 28 6308 1009 GRANIN 25 2 14 14 10 6 7 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1	BROMEL	2	0	2	2	0	2	()	0	3.08	0.5	3									
CREADIN   25   2				1.3		0	4	8	1	20.00	3.46	5									
RIDAC   1								7	28	63.08	10.90	)									
INNERCY   2													Trichomanes	3	3	0	2	1	0	16.67	5.26
DRICHID 1 0 1 1 0 0 1 0 0 1.54 0.27  PALMAE 1 1 1 1 0 1 0 0 1 1.54 0.27  TOTAL 39 3 65 65 0 15 21 2910000 17.30  Subtoral 1 1 1 0 0 0 1 0 0 10000 1.75  Subtoral 2 2 0 0 0 2 0 100.00 1.75  FERNANDEZ  PTERIDOPHYTA: FAMILIAS, GENEROS Y  ESPECIES  NT NS NI EN NA AD 46 6 90 0 1.75  Adamsum 1 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0																					
PALMAKE		1											Subtotal	18	16	2	5	13	0	100.00	31.57
Total   39   3   65   65   0   15   21   29   100   0   1730		1																			
Subtotal	ALMAE	1	ı	1	1	U	1	U	U	1.54	0.2	,	LOPHOSORIACEAE								
Subtotal	Total	39	3	65	65	0	15	21	29	 100.00	17.30	0	Lophosoria	ì	1	0	0	1	0	100.00	1.75
Lycopodium   2   2   0   0   2   0   100,00   3,51													Subtotal	1	1	0	0	1	0	100.00	1.75
Lycopodium   2   2   0   0   2   0   100,00   3,51													LVCORODIACEAE				•				
Subtotal   2			DE	LA	FLO	OR A	D	ЕJU	JAN					2	2	0	0	2	0	100.00	3.51
PTERIDOPHYTA: FAMILIAS, GENEROS Y   ESPECIES	FERNANI	DEZ											6.1	2	2	0	0	7	0	100.00	2.51
Composition	PTERIDO	PHY'	TA:	FAN	MIL	IAS	, G	ENI	ERO	S Y			Subtotal	2	2	U	U	2	U	100.00	3.31
Not							,						OPHIOGLOSSACEAE								
Subtotal 1 1 0 0 1 0 0 100.00 1.75  ADIANTACEAE Adantum 1 1 0 0 1 0 0 20.00 1.75 Plers 3 3 3 0 1 2 0 0 60.00 5.26 Subtotal 5 5 0 2 3 0 100.00 8.76  Subtotal 5 5 0 2 2 3 0 100.00 7.02  Subtotal 6 6 6 0 4 2 0 100.00 10.53  BIECHNACEAE Blechnum 6 6 6 0 4 2 0 100.00 10.53  DENNSTAEDTIACEAE  Histopieris 1 1 0 0 1 0 0 1 0 50.00 1.75  DENNSTAEDTIACEAE  Histopieris 1 1 0 0 1 0 0 1 0 50.00 1.75  Subtotal 2 2 0 0 0 2 0 100.00 3.50  DICKSONIACEAE  Subtotal 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	201 20120												Ophioglossum	1	1	0	1	0	0	100.00	1.75
Addantum				NT	NS	N	I	EN :	NΑ	AD	%F	% D									
Adantum	A DIA N'T A CE	A.E.						-					Subtotal	1	1	0	1	0	0	100.00	1.75
Notholaena		AL		1			Λ	٥	1	Β	20.00	1.75									
Peters 3 3 3 0 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 1 0 20.00 1.75 Plotypodium 3 2 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 20.00 1.75 Polypodium 3 2 1 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 60.00 5.26 Pleopelis 1 1 1 0 0 0 1 0 100.00 1.75 Polypodium 3 2 1 1 1 2 0 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 2 0 100.00 8.76 Polypodium 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																					
Polypodium   3   2   1   1   2   0   60,00   5,20														1							
SUBTIONAL STATES SERVING SUBSTITUTE SUBSTITU	teris			2			U	,	-	U	00.00	3.20	Pleopeltis								
ASPLENIACEAE ASPLENIACEAE ASPLENIACEAE ASPLENIACEAE ASPLENIACEAE ASPLENIACEAE ASPLENIACEAE Blechnum    4	ubtotal			5	5		0	2	3	0	100.00	8.76	Poly podium	3	2	1	1	2	0	60.00	5.26
Total   S7   53   4   23   34   0   100.00   0.00													Subtotal	5	4	1	1	4	0	100.00	8.76
Subtotal   4		EAE		4	4		0	2	1	0	100.00	7.02			-						
BLECHNACEAE Blechnum 6 6 6 0 4 2 0 100.00 10.53  Subtotal 6 6 0 4 2 0 100.00 10.53  DENNSTAEDTIACEAE Histopieris 1 1 0 0 0 1 0 50.00 1.75 Hypolepis 1 1 0 0 0 1 0 50.00 1.75 Subtotal 2 2 0 0 2 0 100.00 3.50  DICKSONIACEAE DICKSONIACEAE DICKSONIACEAE DICKSONIACEAE DICKSONIACEAE Thyropieris (É) 1 1 0 0 1 0 0 33.33 1.75  Subtotal 2 2 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Aspiemum			4	4		U	-	-	U	100.00	1.02	Total	57	53	4	23	34	0		100.00
DICOTYLEDONEAE: FAMILIAS, GENEROS Y   ESPECIES     DICOTYLEDONEAE: FAMILIAS, GENEROS Y   ESPECIES   DICOTYLEDONEAE: FAMILIAS, GENEROS	Subtotal			4	4		0	2	2	0	100.00	7.02									
ESPECIES   Subtotal	BLECHNACE	EAE																			
DENNSTAEDTIACEAE	Blechnum			6	6		0	4	2	0	100.00	10.53	DICOTYLEDON	EAE:	FAM	11LI <i>A</i>	S, G	EN.	ERO:	S Y	
DENNSTAEDTIACEAE  Histopteris	Subtotal			6	6		0	4	2	0	100.00	10.53									
Hypolepis 1 1 0 0 1 0 50.00 1.75 AIZOACEAE  Hypolepis 2 2 0 0 2 0 100.00 3.50  Subtotal 2 2 0 0 2 0 100.00 3.50  Subtotal 1 1 0 0 0 1 100.00 0.39  DICKSONIACEAE  Thyrsopteris (E) 1 1 0 0 1 0 0 33.33 1.75 Amaranthus 2 2 0 0 0 0 2 100.00 0.79  Subtotal 2 2 0 0 0 1 0 100.00 5.26 Subtotal 2 2 0 0 0 0 2 100.00 0.79  Subtotal 3 3 0 3 0 0 100.00 5.26 Subtotal 2 2 0 0 0 0 0 1 100.00 0.79  DRYOPTERIDACEAE  APOCYNACEAF  APOCYNACEAF  Cystopteris 1 1 0 0 1 0 0 14.29 1.75 Vinca 1 1 0 0 0 0 1 100.00 0.39  Cystopteris 1 1 0 0 1 0 14.29 1.75																					
Hypolepis 1 1 0 0 1 0 50.00 1.75 AIZOACEAE  Tetragonia 1 1 0 0 0 1 100.00 0.3  Subtotal 2 2 0 0 0 2 0 100.00 3.50  Subtotal 1 1 0 0 0 0 1 100.00 0.3  DICKSONIACEAE  Dicksonia 2 2 0 0 2 0 0 66.67 3.51 AMARANTHACEAE  Thyrsopteris (E) 1 1 0 0 1 0 0 33.33 1.75 Amaranthus 2 2 0 0 0 0 2 100.00 0.7  Subtotal 2 2 0 0 0 0 0 0 0 1 100.00 0.7  Subtotal 3 3 0 0 0 100.00 5.26 Subtotal 2 2 0 0 0 0 0 2 100.00 0.7  DRYOPTERIDACEAE  Arthropteris 1 1 0 0 1 0 0 14.29 1.75 Vinca 1 1 0 0 0 0 1 100.00 0.3  Cystopteris 1 1 0 0 1 0 14.29 1.75		HACI	EAE								****	. 7.		NI	NS	NI	ENI	NΑ	ΑD	%F	%1
Tetragonia   1   1   0   0   0   1   100.00   0.3															-	*			-	-	
Subtotal 2 2 0 0 2 0 100.00 3.50  Subtotal 1 1 0 0 0 1 100.00 0.3  DICKSONIACEAE  Dicksonia 2 2 0 0 2 0 0 66.67 3.51 AMARANTHACEAE  Thyrsopteris (E) 1 1 0 0 1 0 0 33.33 1.75 Amaranthus 2 2 0 0 0 0 2 100.00 0.7  Subtotal 2 2 0 0 0 100.00 5.26 Subtotal 2 2 0 0 0 0 2 100.00 0.7  DRYOPTERIDACEAE  Arthropteris 1 1 0 1 0 0 14.29 1.75 Vinca 1 1 0 0 0 1 100.00 0.3  Cystopteris 1 1 0 0 1 0 14.29 1.75	Hypolepis			1	1		()	0	ì	()	50.00	1.75		,		0	0	0	1	100.00	0.2
Subtotal 1 1 0 0 0 1 100.00 0.30  DICKSONIACEAE  Dicksoma 2 2 0 0 2 0 0 66.67 3.51 AMARANTHACEAE  Thyrsopteris (E) 1 1 0 0 1 0 0 33.33 1.75 Amaranthus 2 2 0 0 0 0 2 100.00 0.79  Subtotal 3 3 0 3 0 0 100.00 5.26 Subtotal 2 2 0 0 0 0 2 100.00 0.79  DRYOPTERIDACEAE  Arthropteris 1 1 0 1 0 0 14.29 1.75 Vinca 1 1 0 0 0 0 1 100.00 0.39  Cystopteris 1 1 0 0 1 0 14.29 1.75	Subtotal			2	2		0	()	2	()	100.00	3.50	retragonia	ı	1	0	U	U	1	100.00	0.5
Dicksonia   2   2   0   2   0   0   66.67   3.51   AMARANTHACEAE				_									Subtotal	1	1	()	0	0	1	100.00	0.3
Thyrsopteris (E)	DICKSONIA	CEAE																			
Thyrsopteris (E)	Dicksonia			2	2		0	2	()	()	66.67	3.51	AMARANTHACEAE								
DRYOPTERIDACEAE  APOCYNACEAE  Arthropteris		E)									33.33	1.75		2	2	()	0	0	2	100.00	0.7
DRYOPTERIDACEAE  APOCYNACEAE  Arthropteris	Subtotal			3	2		()	3	0	()	100.00	5.76	Subtotal	7	٦	n	Ŋ	0	2	100 00	0.7
Arthropteris 1 1 0 1 0 0 14.29 1.75 Vinca 1 1 0 0 0 1 100.00 0.30 Cystopteris 1 1 0 0 1 0 14.29 1.75	outotal			2			.,	,1	17	U	100.00	V	Summar	-	-	U	U	U	-	100.00	0.7
Cystopteris 1 1 0 0 1 0 14.29 1.75	DRYOPTERI	DACE	ΑE										APOCYNACEAE								
				1	1		()	1	()	()	14.29	1.75	Vinca	1	l	()	()	()	1	100.00	0.3
Elaphoglosum I I 0 0 I 0 14.29 175 Subtotal I I 0 0 0 I 100.00 0.39				1	]		()	()	1	()	14.29										
	Elaphoglossun			[	1		()	()	1	()	14.29	1.75	Subtotal	1	1	()	()	()	1	100.00	0.39

	NT	NS	NI	EN	NA	AD	%F	%[)		NT	NS	NI	EN	NΑ	ΑD	%F	%.D
BERBERIDACEAE									(* ) <i>(</i>								
Berberis	3	2	1	3	0	0	100.00	1.18	Silybum	- 1	1	()	()	()	1	1.75	0.39
Delociti	,	-	٠		0		100.00	1.10	Sonchus	2	2	()	()	()	2	3.51	0.79
Subtotal	3	2	1	3	()	0	100.00	1.18	Faraxacum	- [	1	()	- 1	()	()	1.75	0.39
Subtotal	3	-	1		U	U	100.00	1.10	Xanthium	1	]	()	()	()	1	1.75	0.39
									Yunquea (E)	1	ì	()	1	()	()	1.75	0.39
BORAGINACEAE																	
Cynoglossum	1	1	0	0	()	1	50.00	0.39	Subtotal	57	57	0	27	5	25	100 00	22 37
Selkirkia (E)	1	1	()	-	()	()	50.00	0.39					-			10000	
									CONVOLVULACEAE								
Subtotal	2	2	0	1	0	1	100.00	0.78	Calystegia		1	0	()	1	()	22.22	0.10
									Convolvulus	1						33.33	0.39
CALLITRICHACEAE										,	1	()	()	()	1	33.33	0.39
Callitriche	1	1	0	0	1	0	100.00	0.39	Dichondra	- 1	1	()	()	1	()	33.33	0.39
Camina																	
Subtotal	1	1	()	0	1	0	100.00	0.39	Subtotal	3	3	()	()	2	1	100 00	1.17
Subtotal	1	1	V	0	1	0	100.00	0.57									
61.14D.1111.40E.E									CRUCIFERAE								
CAMPANULACEAE									Brassica	3	3	()	()	()	3	30.00	1.18
Lobelia	2	2	0	0	1	1	25.00	0.79	Cardamine	3	3	()	-	2	0	30 00	1.18
Wahlenbergia	6	5	1	6	0	0	75.00	2.36	Lepidium	1	1	()	0	()	1	10.00	0.39
									Matthiola	1	1	0	0	0	1	10.00	0.39
Subtotal	8	7	1	6	1	1	100.00	3.15	Raphanus	1	1	0	0	0	1	10.00	0.39
									•	1	1	0			1		
CARYOPHYLLACEAE									Rorippa	1	1	U	0	()	1	10.00	0.39
Cerastium	2	2	0	0	0	2	18.18	0.79									
Paronychia	1	1	0	0	1	0	9.09	0.39	Subtotal	10	10	0	1	2	7	100.00	3 92
Polycarpon	i	1	0	0	0	1	9.09	0.39									
	1	1	0	0	0	1		0.39	DIPSACACEAE								
Sagina	-						9.09		Dipsacus	1	1	0	0	()	1	100 00	0.39
Silene	1	1	0	0	0	1	9.09	0.39									
Spergularia	3	2	1	3	0	0	27.27	1.18	Subtotal	1	1	()	0	0	1	100.00	0.39
Stellaria	2	2	()	0	0	2	18.18	0.79									
									ELAEOCARPACEAE								
Subtotal	11	10	1	3	1	7	100.00	4.32	Aristotelia	1	1	0	0	0	1	50.00	0.39
									Crinodendron	1	1	0	0	0	1	50.00	0.39
CHENOPODIACEAE									Chilodenaton	,	1	()		0	1	20.00	0.57
Chenopodium	6	6	0	3	0	3	85.71	2.36	Cultural	2	2	0	0	0		100.00	0.70
Sarcocornia	1	1	0	0	1	0	14.29	0.39	Subtotal		2	0	0	0	2	100.00	0.78
									ELIPETE LOS LS								
Subtotal	7	7	0	3	1	3	100.00	2.75	EMPETRACEAE								
Subtotal	,	,	0		•	5	100.00	2.75	Empetrum	1	1	0	0	1	0	100.00	0.39
COMPOSITAE																	
		,	0		0	^	176	0.20	Subtotal	1	1	0	0	1	0	100.00	0.39
Abrotanella	ł	1	0	1	0	0	1.75	0.39									
Amblyopappus	1	1	0	0	1	0	1.75	0.39	ERICACEAE								
Anthemis	1	1	0	0	0	1	1.75	0.39	Pernettya	1	1	0	]	0	0	100.00	0.39
Artemisia	1	1	0	0	0	1	1.75	0.39									
Bahia	1	1	0	0	l	0	1.75	0.39	Subtotal	1	1	()	1	0	0	100.00	0.39
Bidens	1	1	0	0	(	1	1.75	0.39									
Calendula	1	1	0	0	0	1	1.75	0.39	EUPHORBIACEAE								
Carthamus	1	1	0	0	0	1	1.75	0.39	Dysopsis	1	1	0	1	0	0	33.33	0.39
Centaurea	1	1	0	0	0	1	1.75	0.39	Euphorbia	2	2	0	0	0	2	66.67	0.79
Centaurodendron (E)	2	2	0	2	0	0	3.51	0.79	Еприотога	-	-	U	U	U	-	00.07	0.79
Chrysanthemum	ī	1	0	0	0	1	1.75	0.39		,	,				3	100.00	1.16
Cichorium	1	1	0	0	0	1	1.75	0.39	Subtotal	3	3	0	1	0	2	100.00	1.18
Cirsium	1																
Conyza		1	0	0	0	1	1.75	0.39	FLACOURTIACEAE								
	1	1	0	0	0	1	1.75	0.39	Azara	ì	1	0	1	0	0	100 00	0.39
Cotula	2	2	0	0	0	2	3.51	0.79									
Cynara	1	1	0	0	0	1	1.75	0.39	Subtotal	1	1	0	1	0	0	100.00	0.39
Dendroseris (E)	11	11	0	1.1	0	0	19.30	4.33									
Erigeron	4	4	0	4	0	0	7.02	1.57	FUMARIACEAE								
Galinsoga	1	1	0	0	0	1	1.75	0.39	Fumaria	1	1	0	0	0	1	100.00	0.39
Gamochaeta	3	3	0	0	1	2	5.26	1.18									
Hypochaeris	2	2	0	0	0	2	3.51	0.79	Subtotal	1	1	0	0	0	1	100.00	0.39
Lagenophora	1	1	0	0	1	0	1.75	0.39	34010141	,		~	0				0.07
Lapsana	1	i	0	0	0	1	1.75	0.39	GENTIANACEAE								
Micropsis	1	1	0	0	1	0	1.75	0.39		,	1	0	0	0	1	100.00	0.20
Robinsonia (E)	7	7	0	7	0	0	12.28	2.76	Centaurium	- 1	ł	0	0	0	1	100.00	0.39
Senecio	2	2	0	0	0	2			6.1	,	1		_	0		100.00	0.30
	-	-	U	U	U		3.51	0.79	Subtotal	1	1	0	0	0	1	100.00	0.39

	NT	NS	NI	EN	NA	ΑD	% F	%D		NT	NS	NI	EN N	A AD	%F	%D
GERANIACEAE		-				-			ONAGRACEAE			_				
Erodium	1	1	0	0	0	1	33.33	0.39	Oenothera	2	2	0	0	0 2	100.00	0.79
Geranium	2	2	0	0	0	2	66.67	0.79								
	2	2	0	0	0	3	100.00	1.18	Subtotal	2	2	0	0	0 2	100.00	0.79
Subtotal	3	3	0	0	U	3	100.00	1.10	OXALIDACEAE							
GUNNERACEAE									Oxalis	2	2	0	0	0 2	100.00	0.79
Gunnera	6	6	0	6	0	0	100.00	2.36								
						0	100.00	2.26	Subtotal	2	2	0	0	0 2	100.00	0.79
Subtotal	6	6	0	6	0	0	100.00	2.36	PAPILIONACEAE							
HALORAGACEAE									Medicago	4	4	0	0	0 4	36.36	1.57
Haloragis	3	2	1	3	0	0	100.00	1.18	Melilotus	1	1	0		0 1	9.09	0.39
r taloragis									Sophora	3	2	1		0 0		1.18
Subtotal	3	2	1	3	0	0	100.00	1.18	Teline	1	1	0	0	0 1	9.09	0.39
									Trifolium	2	2	0	0	0 2	18.18	0.79
LABIATAE															100.00	
Cuminia (E)	2	1	1	2	0	0	33.33		Subtotal	11	10	1	3	0 8	100.00	4.32
Marrubium	1	1	0	0	0	1	16.67	0.39	PHYTOLACCACEAE							
Melissa	1	1	0	0	0	1	16.67	0.39	Phytolacca	1	1	0	0	0 1	100.00	0.39
Mentha	2	2	0	0	0	2	33.33	0.79	i ny tolacca	,	,		V		100.00	0.57
Subtotal	6	5	1	2	0	4	100.00	2.36	Subtotal	1	1	0	0	0 1	100.00	0.39
LACTORIDACEAE(E)									PIPERACEAE							
Lactoris (E)	1	]	0	1	0	()	100.00	0.39	Peperomia	6	4	2	5	1 0	100.00	2.36
Subtotal	1	1	0	1	0	0	100.00	0.30								
Subtotal	1	ı	U	1	U	0	100.00	0.37	Subtotal	6	4	2	5	1 0	100.00	2.36
LARDIZABALACEAE									PLANTAGINACEAE							
Lardizabala	1	1	0	0	0	1	100.00	0.39	Plantago	5	5	0	1	2 2	100.00	1.97
Subtotal	1	1	0	0	0	1	100.00	0.39							100.00	
									Subtotal	5	5	0	1	2 2	100.00	1.97
LINACEAE	1	1	0	0	0	1	100.00	0.39	POLEMONIACEAE							
Linum	1	1	U	U	U	1	100.00	0.39	Gilia	1	i	0	0	1 0	50.00	0.39
Subtotal	1	i	0	0	0	1	100.00	0.39	Microsteris	1	1	0	0	1 0	50.00	0.39
LODANTHA CEAE									Subtotal	2	2	0	0	2 0	100.00	0.78
LORANTHACEAE Notanthera	1	1	0	0	1	0	50.00	0.39	Subtotal	_	-	0	Ü	_ 0	100.00	0.70
Tristerix	1	1	0	0	0	1	50.00	0.39	POLYGONACEAE							
THISTELIA	1	,	0	U	U	,	50.00	0.57	Polygonum	2	2	0	0	0 2	33.33	0.79
Subtotal	2	2	()	0	1	1	100.00	0.78	Rumex	4	4	0	0	0 4	66.67	1.57
LYTHRACEAE									Coherent	6	6	0	0	0 6	100.00	2.36
Lythrum	1	1	0	0	0	1	100.00	0.39	Subtotal	0	0	0	U	0 0	100.00	2.30
									PORTULACACEAE							
Subtotal	1	١	0	0	()	1	100 00	0.39	Monocosmia	1	1	0	0	1 0	100.00	0.39
MALVACEAE																
Anoda	1	1	0	()	()	i	25.00	0.39	Subtotal	1	1	0	0	1 0	100.00	0.39
Malva	2	2	()	0	()	2	50.00	0.79	DD D ALL A CT A F							
Modiola	1	1	()	0	()	- 1	25.00	0.39	PRIMULACEAE Anagallis	2	2	0	0	0 2	100.00	0.79
Subtotal	4	4	()	0	0	4	100.00	1.57	Ападант	-	-	0	Ü		100.00	0.,,
Subtotal	-4	4	()	U	0	4	100.00	1.57	Subtotal	2	2	()	0	0 2	100.00	0.79
MIMOSACEAE																
Albizia	1	1	0	()	()	1	100.00	0.39	RANUNCULACEAE			0	0	0 1	22.22	0.20
Subtotal	1	1	()	0	()	1	100 00	0.20	Anemone Ranunculus	1 2	2	0		0 1	33.33 66.67	
Subtotal	ı	1	U	U	U	1	100 00	0.39	Numariculus	-	-	0			55,67	2.,,
MYRTACEAE									Subtotal	3	3	0	1	0 2	100.00	1.18
Myrceugenia	2	2	0	2	()	()	40 00									
Myrteola	1	1	()	()	1	()	20.00		RHAMNACEAE						100.00	0.30
Ugni	2	2	()	1	()	1	40 00	0.79	Colletia	1	1	0	1	0 0	100.00	0.39
Subtotal	5	5	0	3	1	1	100 00	1.97	Subtotal	1	1	()	1	0 0	100.00	0.39
		2	0	,	1	,	, 007 007	****								

	NT	NS	NI	EN	NA	ΑD	%F	%()		NT	NS	NI	EN N	NΑ	ΑD	%F	%D
ROSACEAE									URTICACEAE								
Acaena	3	3	0	1		1	27.50	1.10	Boehmeria	1		0		0		44.00	
		. 1	0	1	0		37.50	1.18	Parietaria		1	0	1	0	0	14.29	0.39
Fragaria X Margyracaena (E)	1	1	0	I	0	- 1	12.50	() 39	Urtica	3	2	1	1	2	0	42.86	1.18
Margyricarpus	1	1	0	1	0	()	12.50	0.39	Offica	3	3	0	2	1	0	42.86	1.18
Rubus	2	2	0	0	1		12.50 25.00		Subtotal	7	,			2			
Kubus		2	U	0	1	I	25.00	() 79	30010101	/	6	1	4	3	0	100.00	2.75
Subtotal	8	8	0	3	2	3	100.00	3.14	VERBENACEAE Rhaphithamnus	1	1	0	1	0	0	50.00	0.39
RUBIACEAE									Verbena	1	1	0	0	0	i	50.00	0.39
Coprosma	2	2	0	2	0	()	33.33	0.79							•	50.00	0.57
Galium	2	2	0	1	0	1	33.33	0.79	Subtotal	2	2	0	1	0	1	100 00	0.78
Hedyotis	1	1	0	0	1	()	16.67	0.39								10000	0.70
Nertera	- 1	l	0	0	1	()	16.67	0.39	WINTERACEAE								
									Drimys	1	1	()	1	0	()	100.00	0.39
Subtotal	6	6	()	3	2	1	100.00	2.36									
DUTACEAE									Subtotal	1	- 1	0	1	0	0	100 00	0.39
RUTACEAE	2	2	0	2													
Fagara	2	2	0	2	0	0	66.67	0.79	Total	254	245	9	99	32	123	1	00 00
Ruta	1	1	0	0	()	1	33.33	0.39									
Subtotal	3	3	0	2	()	1	100.00	1.18									
SANTALACEAE									MONOCOTYLE	DONE	AE:	FAM	ILIA!	S, G	ENE	EROS '	Y
Santalum	1	1	0	1	0	0	100.00	0.39	ESPECIES								
Subtotal	- 1	1	0	1	0	()	100.00	0.39		NT	NS	NI	EN N	J.A.	АD	% F	% D
															, , ,	7.7 8	.010
SAXIFRAGACEAE									BROMELIACEAE								
Escallonia	1	ļ	0	1	0	0	100.00	0.39	Greigia	1	1	0	1	0	0	50.00	1.54
Subtotal	1	1	0	1	0	0	100.00	0.39	Ochagavia (e)	1	1	0	1	0	0	50.00	1.54
Subtotal	'	,	U	,	U	U	100.00	0.57									
SCROPHULARIACEAE									Subtotal	2	2	0	2	0	0	100.00	3.08
Euphrasia	1	1	0	1	0	0	16 67	0.39									
Mimulus	1	1	0	1	0	0	16.67	0.39	CYPERACEAE								
Verbascum	1	1	0	0	0	1	16.67	0.39	Carex	2	2	0	1	1	0	15.38	3.08
Veronica	3	3	0	0	0	3	50.00	1.18	Cyperus	2	2	0	0	1	1	15.38	3.08
									Eleocharis	1	- 1	0	0	1	0	7.69	1.54
Subtotal	6	6	0	2	0	4	100.00	2.35	Machaerina	1	1	0	1	0	0	7.69	1.54
									Oreobolus	1	- 1	0	0	1	0	7.69	1.54
SOLANACEAE									Scirpus	2	2	0	0	2	0	15.38	3.08
Cestrum	1	1	0	0	0	1	11.11	0.39	Uncinia	4	4	0	2	2	0	30.77	6.15
Datura	1	1	0	0	0	1	11.11	0.39									
Nicotiana	2	2	0	1	0	1	22.22	0.79	Subtotal	13	13	0	4	8	1	100.00	20.01
Physalis	1	1	0	0	0	1	11.11	0.39									
Solanum	4	4	0	2	1	1	44.44	1.57	GRAMINEAE								
Cubannal	0	^	0	,	,	e	100.00	2 5 2	Agrostis	2	2	0	1	0	1	4.88	3.08
Subtotal	9	9	0	.5	- 1	5	100.00	3.53	Aira	2	2	0	0	0	2	4.88	3.08
TROPA FOLLOFA F									Anthoxanthum	1	1	0	0	0	1	2.44	1.54
TROPAEOLACEAE	,		0	0	0	,	100.00	0.20	Avena	1	1	0	0	0	1	2.44	1.54
Tropaeolum	1	1	0	0	0	1	100 00	0.39	Briza	2	2	0	0	0	2	4.88	3.08
Subtotal	1	1	0	0	0	1	100 00	0.39	Bromus	3	3	0	0	0	3	7.32	4.62
									Chaetotropis	2	2	0		1	0	4.88	3.08
UMBELLIFERAE									Chascolytrum	1	1	0		0	1	2.44	1.54
Ammi	ì	1	0	0	0	1	6.25	0.39	Chusquea	1	1	0		0	0	2.44	1.54
Anethum	1	1	0	0	0	1	6.25	0.39	Danthonia	1	1	0		0	1	2.44	1.54
Apium	4	4	0	ļ	0	3	25 00	1.57	Gastridium	1	1	0		0	1	2.44	1.54
Centella	1	1	0	0	1	0	6.25	0.39	Hordeum	3	3	0		0	3	7.32	4.62
Coriandrum	1	1	0	0	0	1	6.25	0.39	Leptophy llochloa	1	1	0		1	0		1.54
Daucus	- 1	1	0	0	0	l	6.25	0.39	Lolium	1	1	0		0	1		1.54
Eryngium	4	4	0	4	0	()	25 00	1.57	Megalachne (E)	2	2	0		0	0		3.08
Petroselinum	1	1	0	0	0	1	6.25	0.39	Paspalum	2	2	0		1	1		3.08
Sanicula	1	1	0	0	i	()	6.25	0.39	Phalaris	2	2	0		0	2		3.08
Torilis	1	1	0	0	0	1	6.25	0.39	Piptochaetium	1	1	0		1	0		1.54
									Poa	2	2	0		0	2		3.08
Subtotal	16	16	0	5	2	4)	100 00	6.26	Podophorus (E)	1	1	0	1	0	0	2.44	1.54

	NT	NS	NI	EN	NA	ΑD	% F	% D
-								_
Polypogon	1	1	0	0	0	1	2.44	1.54
Setaria	2	2	0	0	0	2	4.88	3.08
Stipa	2	2	0	0	2	0	4.88	3.08
Trisetum	1	1	0	0	1	0	2.44	1.54
Vulpia	3	3	0	0	0	3	7.32	4.62
Subtotal	41	41	0	6	7	28	100.00	63.14
IRIDACEAE								
Libertia	1	1	0	0	1	0	100.00	1.54
Subtotal	1	i	0	0	1	0	100.00	1.54
JUNCACEAE								
Juneus	5	5	0	0	5	0	83.33	7.69
Luzula	1	1	0	1	0	0	16.67	1.54
Subtotal	6	6	0	1	5	0	100.00	9.23
ORCHIDACEAE								
Gavilea	1	1	0	1	0	0	100.00	1.54
Subtotal	1	1	0	1	0	0	100.00	1.54
PALMAE								
Juania (E)	1	1	0	1	()	()	100.00	1.54
Subtotal	1	1	0	1	0	0	100.00	1.54
Total	65	65	0	15	21	29	-	100.00

## RESUMEN DE LA FLORA VASCULAR DE JUAN FERNANDEZ

	NF	NG	GE	NT	NS	NI	EN	NA	ΑD	% F
PTERI		-			£ 2		2.2	2.4		15.17
DICOT	56	148	8	254	245	9	99	32	123	67.67
MONOC	7	39	3	65	65	0	15	22	28	17.30
Total	75	213	12	376	363	13	137	88	151	100.00

# PORCENTAJES DE ENDEMICAS NATIVAS Y ADVENTICIAS

	En la	flora t	otal	En la di	ivisión o	clase
	FN	<b>N</b> A	AD	11	NA	ΑD
PTERI	6.12	9.04	0.00	40 35	59.65	() ()()
DICOT	26.33	8.51	32.71	38.98	12.60	48.42
MONOC	3.99	5.85	7.45	36.44	23.40	40.16
Total	36.44	23.40	40 16			

# Las familias con mayor NT en Juan Fernández son las siguientes:

FAM	NT	% en la flora
COMPOSITAE	57	15.19
GRAMINEAE	41	10.90
HYMENOPHYLLACEAE	18	4.79
UMBELLIFERAE	16	4.26
CYPERACEAE	13	3.46
CARYOPHYLLACEAE	11	2.93
PAPILIONACEAE	11	2.93
CRUCIFERAE	10	2.66

#### Los géneros con más alto NT son:

Hymenophyllum	HYMENO	13
Dendroseris	COMPOS	11
Robinsonia	COMPOS	7
Blechnum	BLECHN	6
Chenopodium	CHENOP	6
Gunnera	GUNNER	6
Peperomia	PIPERA	6
Wahlenbergia	CAMPAN	6

# El número de géneros con determinado NT es el siguiente:

NT	Número de géneros	0%
1	133	62.44
2	43	20.19
3	18	8.45
4	8	3.76
5	2	1.88
6	5	2.35
7	1	0.47
11	1	0.47
13	1	0.47

Familia Endémica: *Lactoridaceae*. GENEROS ENDEMICOS:

#### PTERIDOPHYTA

DICKSONIACEAE: Thyrsopteris.

HYMENOPHYLLACEAE: Hymenoglossum (e).

#### DICOTYLEDONEAE

BORAGINACEAE: Selkirkia.

COMPOSITAE: Centaurodendron, Dendroseris,

Robinsonia, Yunquea.

Labiatae: Cuminia.

LACTORIDACEAE: Lactoris.

ROSACEAE: X Margyracaena.

#### MONOCOTYLEDONEAE

GRAMINEAE: Megalachne, Podophorus.

PALMAE. Juania.

ESTADISTICA I DESVENTURAI					CUI	LAR	DE IS	LAS		N1	NS.	NI	EN NA	AD	of F	al D
DICOTYLEDON	EAE								Sonchus Thamnoseris (E)	2	2	()	0 0	2	28 57 28 57	
FAM	NG GI	E NET	NIC N	II EN	N' A	(1)	a(oD)	% F								
FAM	NG GI	E NI	N5 P	NI EN	3874	ΛĐ	·%(D)	'70 F	Subtotal	7	6	ŀ	3 ()	4	100 00	22 58
ATZOAC		0 2		0 0	1	ļ	6.45	6.06	CRUCIFERAF							
BORAG1		1 1		0 1	()	0	3.23	3.03	Lepidium	1	1	()	1 0	()	100 00	3.23
CARYOP CHENOP	2	1 3 0 7		0 1	- 1	2	9.68 22.58	9.09								
COMPOS		2 7	6	1 3	0	4	22.58	21.21	Subtotal	1	I	()	1 0	()	100 00	3.23
CRUCIF	1 (	0 1	1	0 1	()	()	3.23	3.03	CUCURBITACEAE							
CUCURB	1 (	0 1	1	() }	0	()	3.23	3.03	Sicyos	1	1	()	1 ()	()	100 00	3.23
FRANKE		0 1		0 1	()	()	3.23	3.03								
MALVAC PLANTA		0 5 0 1		0 3	()	2	16.13	15.15 3.03	Subtotal	1	1	()	1 ()	()	100 00	3.23
SOLANA		0 1		0 0	1	0	3.23	3.03	Charittaniactat							
URTICA		0 1		0 1	0	()	3.23	3.03	FRANKENIACEAE Frankenia	1	1	()	1 ()	()	100.00	3 7 3
									Tankena		,	0	, 17		100 00	2 -2
Total	21 .	4 31	30	1 18	3	10	100.00	93.93	Subtotal	1	1	0	1 0	()	100 00	3.23
									MALVACEAE							
MONOCOTYLE	DONE	EAE							Cristaria	2	2	()	2 ()	0	40 00	
F* A B 4	NG OF	- NIT	NIC N	II EN	N/A	. 10	(F. 1)	ar E	Lavatera	1	1	()	0 0	1	20 00	
FAM	NG GE	E NI	NS N	H EN	NΑ	AD	%D	% F	Malva Urocarpidium	1	1	0	0 0	1	20 00	
GRAMIN	] (	0 2	2	0 1	ı	0	100.00	6.06	Ciocarpidium	1	1	U	1 0	U	20 00	3.23
									Subtotal	5	5	0	3 0	2	100 00	16 14
Total	[ (	0 2	2	0 1	1	0	100.00	6.06								
									PLANTAGINACEAE							
									Plantago	1	1	0	1 0	0	100 00	3 23
ESTADISTICA DESVENTURAD		FLC	RA	DE IS	SLA	S			Subtotal	1	l	()	1 0	()	100 00	3 23
DESVENTURAL	AS								SOLANACEAE							
DICOTYLEDON	FAE-	FAM	111.1.4	s c	ENII	EDO	s v		Solanum	1	1	()	0 1	0	{()() ()()	3.23
ESPECIES	LAL.	I AIV.	IILIA	15, 0	LIN	LKO	3 1									
20120120									Subtotal	l	1	0	0 1	0	100 00	5.23
	NT	NS	NI	EN	NA	AD	%F	% D	URTICA							
4170 A CE A E	-								Parietaria	1	1	()	1 0	()	100 00	3.23
AIZOACEAE Tetragonia	2	2	0	0	1	1	100.00	6.45	Subtotal	1	1	0	1 0	0	100 00	3.23
Subtotal	2	2	()	0	1	1	100.00	6.45								
Suviolar	-	-	0		,	,	100.00	0.10	Total	31	30	1	19 2	10		100 00
BORAGINACEAE																
Nesocaryum (E)	1	1	()	1	0	()	100.00	3.23								
Subtotal	1	1	0	1	0	0	100.00	3.23	MONOCOTYLEI ESPECIES	OONE	AE:	FAM	IILIAS,	GENI	EROS	Y
CARYOPHYLLACEA	F									NT	NS	K1	EN NA	AD.	46F	0€ D
Sanctambrosia (E)	1	1	0	1	()	0	33.33	3.23		. 4.1	.4.3	. 81	E.4 .44	*(1)	-01	017
Spergularia	2	2	()	1	0	1		6.45	GRAMINEAE							
									Eragrostis	2	2	0	1 1	0	100 00 1	100.00
Subtotal	3	3	()	2	0	1	100.00	9.68.	Subtotal	2	2	0	1 1	()	100 00 1	100.00
CHENOPODIACEAE									Surional		-					
Atriplex	2	2	()	2	()	()	28.57	6.45	Total	2	2	()	1 1	()	1	00 00
Chenopodium	3	3	()	1	()	2	42.86									
Suaeda	2	2	()	2	()	()	28.57	6.45								
Subtotal	7	7	0	5	()	2	100 00	22.58								
COMPOSITAE																
Cotula	2	2	()	()	0	2	28.57	6.45								
Cotula Lycapsus (E)	2	2	0	0	0	2	28 57 14 29									

# RESUMEN DE LA FLORA VASCULAR DE ISLAS DESVENTURADAS

		NF	NG	GE	NT	NS	NI	EN	NA	AD	%F
DICOT MONOC		12	21		31		1	19 1	2		99.93
Total	~	13	22	4	33	32	1		3		100.00

# PORCENTAJES DE ENDEMICAS, NATIVAS Y ADVENTICIAS

	En la flora to	tal	En la división o clase				
	EN	NA	AD	EN	NA	AD	
DICOT	57.60	6.06	30.30	61.29	6.45	32.26	
MONOC	3.03	3.03	0.00	50.00	50.00	0.00	
Total	60.63	9.09	30.30				

#### GENEROS ENDEMICOS: DICOTYLEDONEAE

BORAGINACEAE: Nesocaryum. CARYOPHYLLACEAE: Sanctambrosia. COMPOSITAE: Lycapsus, Thamnoseris.

# ESTADISTICA DE LA FLORA VASCULAR DE ISLA DE PASCUA: FAMILIAS

#### **PTERIDOPHYTA**

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
ASPLEN	I	0	2	2	0	1	1	0	12.50	1.71
BLECHN	1	0	1	1	0	1	0	0	6.25	0.85
DAVALL	1	0	1	1	0	0	ł	0	6.25	0.85
DENNST	1	0	1	1	0	0	1	0	6.25	0.85
DRYOPT	4	0	4	4	0	3	1	0	25.00	3.42
OPHIOG	1	0	2	2	0	0	2	0	12.50	1.71
POLYPO	1	0	1	1	0	()	1	0	6.25	0.85
PSILOT	1	0	1	1	0	0	i	0	6.25	0.85
THELYP	1	0	2	2	0	0	2	0	12.50	1.71
VITTAR	1	0	1	1	0	()	1	0	6.25	0.85
Total	13	- 0	16	16	0	5	11	0	100.00	13.65

#### DICOTYLEDONEAE

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
AIZOAC	2	0	2	2	0	- 0	()	2	2.94	1.71
CAESAL	1	0	i	1	0	0	0	1	1.47	0.85
CARYOP	2	0	2	2	0	0	0	2	2.94	1.71
CHENOP	1	()	1	1	0	0	0	1	1.47	0.85
COMPOS	10	()	11	11	0	0	0	11	16.18	9.40
CONVOL	3	()	3	3	0	0	1	2	4,41	2.56
CRUCIF	3	()	3	3	0	0	()	3	4.41	2.56
EUPHOR	2	0	4	4	()	()	()	4	5.88	3.42
GENTIA	1	()	1	1	0	0	0	1	1.47	0.85
LABIAT	2	()	2	2	0	0	()	2	2.94	1.71
MALVAC	4	()	4	4	0	0	()	4	5.88	3.42

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
MELIAC	1	0	1	1	0	0	0	1	1.47	0.85
MIMOSA	2	0	2	2	0	0	0	2	2.94	1.71
MORACE	1	0	1	1	0	0	0	1	1.47	0.85
MYRTAC	1	0	1	-1	0	0	0	1	1.47	0.85
NYCTAG	1	0	1	1	0	0	0	1	1.47	0.85
ONAGRA	1	0	2	2	0	0	0	2	2.94	1.71
OXALIĐ	1	0	2	2	0	0	0	2	2.94	1.71
PAPILI	6	0	6	6	0	1	0	5	8.82	5.13
PLANTA	1	0	2	2	0	0	0	2	2.94	1.71
POLYGO	2	0	2	2	0	0	0	2	2.94	1.71
PORTUL	1	0	ì	1	0	0	0	1	1.47	0.85
PRIMUL	1	0	1	}	0	0	1	0	1.47	0.85
SAPIND	1	0	1	1	0	0	0	}	1.47	0.85
SCROPH	1	0	1	1	0	0	0	1	1.47	0.85
SOLANA	4	0	4	4	0	0	2	2	5.88	3.42
TILIAC	1	0	1	1	0	0	0	1	1.47	0.85
TROPAE	1	0	1	1	0	0	0	1	1.47	0.85
UMBELL	1	0	2	2	0	- 0	1	1	2.94	1.7
VERBEN	1	0	1	1	0	0	0	1	1.47	0.85
VITACE	1	0	1	1	0	0	0	1	1.47	0.83
Total	61	0	68	68	0	1	5	62	100.00	58.05

#### MONOCOTYLEDONEAE

FAM	NG	GE	NT	NS	NI	EN	NA	AD	%D	%F
COMMEL	1	0	1	1	0	0	0	1	3.03	0.85
CYPERA	2	0	5	5	0	0	1	4	15.15	4.27
GRAMIN	21	0	24	24	0	3	2	19	72.73	20.51
IRIDAC	1	0	1	1	0	0	0	1	3.03	0.85
JUNCAC	1	0	1	1	0	0	1	0	3.03	0.85
LILIAC	1	0	1	1	0	0	0	1	3.03	0.85
Total	27	0	33	33	0	3	4	26	100.00	28.18

#### ESTADISTICA DE LA FLORA DE ISLA DE PASCUA

# PTERIDOPHYTA: FAMILIAS, GENEROS Y ESPECIES

	NT	NS	NI	EN 1	NΑ	AD	%F	%D
ASPLENIACEAE	-							
Asplenium	2	2	0	1	1	0	100.00	12.50
Subtotal	2	2	0	1	1	0	100.00	12.50
BLECHNACEAE								
Doodia	1	l	0	1	0	0	100.00	6.25
Subtotal	1	1	0	1	0	0	100.00	6.25
DAVALLIACEAE								
Davallia	1	1	0	0	1	0	100.00	6.25
Subtotal	l	1	0	0	1	0	100.00	6.25
DENNSTAEDTIACEA	E							
Microlepia	1	1	0	0	1	0	100.00	6.25
Subtotal	1	1	0	0	1	0	100.00	6.25

	NT	NS	NI	EN I	NA	AD	% <b>F</b> :	%[)		VI	1,5	1	17.	1	(1)	45.4	(r, [)
DRVORTER IDACE A C									Cichorium	1		l)	()	()	1	9.19	147
DRYOPTERIDACEAE		,	0	,	0	0	25.00	( 35			1	f)	0	()	i	9 (19	147
Diplazium	1	1	0	1	0	0	25.00		Cirsium	,	1						14
Dryopteris	1	1	0	0	-	0	25.00		Conyza		1	()	()	()	1	9.09	1 47
Elaphoglossum	1	1	0	1	0	0	25.00		Galinsoga	,	1		()	()	1	9 ()9	14
Polystichum	1	1	0	1	0	()	25.00	6.25	Gamochaeta	1		()	()	()			
									Hypochaeris		1	0	- 1)	()	1	9.09	147
Subtotal	4	4	0	3	ı	0	100.00	25.00	Sonchus			ŧ,	()	()	-	18.18	2.94
									Faraxacum	1	I	()	()	()		9 ()9	1.47
OPHIOGLOSSACEAE																	
Ophioglossum	2	2	0	0	2	()	100.00	12.50	Subtotal	1.1	1.1	()	0	()	1.1	100.00	16.1
Subtotal	2	2	0	()	2	()	100.00	12.50	CONVOLVULACEAE								
									Calystegia	1	1	{}	()	- 0		33.33	147
POLYPODIACEAE									Convolvulus	1	-	()	1.7	0	1	33.33	1.47
Microsorum	1	1	0	0	1	()	100.00	6.25	Ipomoea		1	()	()	1	0	33.33	14"
Subtotal	1	1	0	0	1	()	100.00	6.25	Subtotal	1	3	1)	()	- 1	2	100.00	44,
PSILOTACEAE									CRUCIFERAE								
Psilotum	1	1	0	0	1	0	100.00	6.25	Coronopus	1	1	()	()	()	1	33.33	14"
									Lepidium	1	1	0	()	()	1	33.33	147
Subtotal	}	1	0	0	1	0	100.00	6.25	Nasturtium		1	()	-0	0	1	33.33	147
Juototui					•		100.00										, -
THELYPTERIDACEA	5								Subtotal	3	3	()	()	0	,	100.00	4.41
Thelypteris	2	2	0	0	2	0	100.00	12.50	Suctoral			.,	***			100 00	4 4
Thetypiens	-	-	U	U	-	U	100.00	12.50	ELIBRIA DE LA COLUMNIA DE LA COLUMNI								
Cubratal	2	2	0	0	2	0	100.00	12.50	EUPHORBIACEAE								
Subtotal	2		U	U	2	U	100.00	12.30	Euphorbia	.3	3	()	()	0	3	75.00	441
									Ricinus	1	1	()	()	()	1	25 ()()	1.47
VITTARIACEAE																	
Vittaria	- 1	1	0	0	1	0	100.00	6.25	Subtotal	4	4	0	()	()	4	100.00	5.88
Subtotal	1	1	0	0	l	0	100.00	6.25	GENTIANACEAE								
				-					Centaurium	- 1	1	()	()	()	1	100 00	1.47
Total	16	16	0	5	11	0		100.00									
									Subtotal	1	1	()	()	0	- 1	100 00	1.47
DICOTVI EDONI	7 A 17.	EAM	11 1 4	s C	ENI	ED O	z v										
DICOTYLEDONI	LAE:	FAIN	ILIA	.S, U	ENI	CKO	) I		LABIATAE								
ESPECIES									Marrubium	1	1	()	()	()	1	50.00	1.47
	. 1000	1.10		E. I.			or F	ar Fo	Stachys	i	i	()	0	()		50 00	147
	NT	NS	NI	EN	NA	AD	%F	%D	Stacily	'	'				,	20 00	, 4
	-																
AIZOACEAE						-			Subtotal	,	٦.	4)	0	- 11	,	100.00	2 4 4
Sesuvium									Subtotal	2	2	()	()	0	2	100 00	2 94
	1	ı	0	0	0	1	50.00	1.47		2	2	()	()	()	2	100 00	2 44
Tetragonia	1 1	1	0	0	0	1	50.00 50.00		MALVACEAE	2	2		()	()	2		2 94
										2	2	0	0	()	2	100 00 25 00	2 94
								1.47	MALVACEAE						1	25 00 25 00	
Tetragonia	1	1	0	()	0	ì	50.00	1.47	MALVACEAE Malva	1	ì	0	0	(1	1 1	25 00	147
Tetragonia	1	1	0	()	0	ì	50.00	1.47	MALVACEAE Maiva Maivastrum	1	l I	0	()	(1	1	25 00 25 00	1.47
Tetragonia Subtotal	1	1	0	()	0	ì	50.00	1.47 2.94	MALVACEAE Maiva Maivastrum Sida	1	l I	0 0	() ()	() ()	1	25 00 25 00 25 00	14° 14° 14°
Tetragonia Subtotal CAESALPINIACEAE	2	2	0	0	0	2	50.00	1.47 2.94	MALVACEAE Maiva Maivastrum Sida	1	l I	0 0	0 0	() ()	1 1	25 00 25 00 25 00	147
Tetragonia Subtotal CAESALPINIACEAE	2	2	0	0	0	2	50.00	1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia	1	1 1	() () ()	0 0	0 0	1 1	25 00 25 00 25 00 25 00	147
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia	2	2	0 0	0	0	2	50.00 100.00 100.00	1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal	1	1 1	() () ()	0 0	0 0	1 1	25 00 25 00 25 00 25 00	147
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal	1 2	2	0 0	0	0	2	50.00 100.00 100.00	1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE	1 1 1 1	1 1 4	0 0 0 0 0	0 0 0	0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 25 00	14° 14° 14° 14° 14° 14°
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE	1 1	2	0 0 0	0 0 0	0 0 0	1 2	50.00 100.00 100.00 100.00	1.47 2.94 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal	1	1 1	() () ()	0 0	0 0 0 0	1 1	25 00 25 00 25 00 25 00	14° 14° 14° 14° 14° 14°
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE Cerastium	1 1 1	2	0 0 0	0 0 0	0 0 0	1 2	50.00 100.00 100.00 100.00 50.00	1.47 2.94 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia	1 1 1 1	1 1 1 4	0 0 0 0 0	0 0 0	0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 25 00 100 00	147
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE	1 1	2	0 0 0	0 0 0	0 0 0	1 2	50.00 100.00 100.00 100.00	1.47 2.94 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE	1 1 1 1	1 1 4	0 0 0 0 0	0 0 0	0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 25 00	147
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon	1 1 1 1 1 1 1	1 1 1	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1 1 1	50.00 100.00 100.00 100.00 50.00 50.00	1.47 2.94 1.47 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal	1 1 1 1	1 1 1 4	0 0 0 0 0	0 0 0	0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 25 00 100 00	147
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE Cerastium	1 1 1	2	0 0 0	0 0 0	0 0 0	1 2	50.00 100.00 100.00 100.00 50.00	1.47 2.94 1.47 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00	147 147 147 147 147
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal	1 1 1 1 1 1 1	1 1 1	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1 1 1	50.00 100.00 100.00 100.00 50.00 50.00	1.47 2.94 1.47 1.47 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 0 0 0 0 0	0 0 0 0 0 0 0 0 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00 50 00	147 147 147 147 147 147
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal  CHENOPODIACEAE	1 2 1 1 2 2	1 1 1 2	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1 1 1 1 2	50.00 100.00 100.00 100.00 50.00 50.00	1,47 2,94 1,47 1,47 1,47 1,47 2,94	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00	147 147 147 147 147 147
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal	1 1 1 1 1 1 1	1 1 1	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1 1 1	50.00 100.00 100.00 100.00 50.00 50.00	1,47 2,94 1,47 1,47 1,47 1,47 2,94	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia Leucaena	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 U U U U U U U U U U U U U U U U U U U	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00 50 00 50 00	140 140 140 140 140 140 140 140
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE Cerastium Polycarpon Subtotal CHENOPODIACEAE Chenopodium	1 1 1 1 2 2	1 1 1 2	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	1 1 1 2 2 1	50.00 100.00 100.00 100.00 50.00 50.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 0 0 0 0 0	0 0 0 0 0 0 0 0 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00 50 00	140 140 140 140 140 140 140 140
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal  CHENOPODIACEAE	1 2 1 1 2 2	1 1 1 2	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1 1 1 1 2	50.00 100.00 100.00 100.00 50.00 50.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Meha Subtotal MIMOSACEAE Acacia Leucaena Subtotal	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 U U U U U U U U U U U U U U U U U U U	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00 50 00 50 00	140 140 140 140 140 140 140 140
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal  CHENOPODIACEAE Chenopodium  Subtotal	1 1 1 1 2 2	1 1 1 2	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	1 1 1 2 2 1	50.00 100.00 100.00 100.00 50.00 50.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia Leucaena Subtotal MORACEAE	1 1 1 1 1 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25 00 25 00 25 00 25 00 100 00 100 00 50 00 100 00	147 147 147 147 147 147 147 294
Tetragonia Subtotal CAESALPINIACEAE Caesalpinia Subtotal CARYOPHYLLACEAE Cerastium Polycarpon Subtotal CHENOPODIACEAE Chenopodium	1 2 1 1 2 2 1 1	1 2 1 1 2 1 1 1	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	1 1 1 2 2 1 1	50.00 100.00 100.00 100.00 50.00 50.00 100.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Meha Subtotal MIMOSACEAE Acacia Leucaena Subtotal	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 4	0 U U U U U U U U U U U U U U U U U U U	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 4	25 00 25 00 25 00 25 00 100 00 100 00 50 00 50 00	147 147 147 147 147 147 147 294
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal  CHENOPODIACEAE Chenopodium  Subtotal	1 2 1 1 2 2 1 1 1 1 1 1 1	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0	1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	50.00 100.00 100.00 100.00 50.00 50.00 100.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia Leucaena Subtotal MORACEAE	1 1 1 1 1 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25 00 25 00 25 00 25 00 100 00 100 00 50 00 100 00	147 147 147 147 147 147 147 147 147
Tetragonia  Subtotal  CAESALPINIACEAE Caesalpinia  Subtotal  CARYOPHYLLACEAE Cerastium Polycarpon  Subtotal  CHENOPODIACEAE Chenopodium  Subtotal  COMPOSITAE	1 2 1 1 2 2 1 1	1 2 1 1 2 1 1 1	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	1 1 1 2 2 1 1	50.00 100.00 100.00 100.00 50.00 50.00 100.00 100.00	1.47 2.94 1.47 1.47 1.47 2.94 1.47	MALVACEAE Malva Malvastrum Sida Thespesia Subtotal MELIACEAE Melia Subtotal MIMOSACEAE Acacia Leucaena Subtotal MORACEAE	1 1 1 1 1 2 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25 00 25 00 25 00 25 00 100 00 100 00 50 00 100 00	147 147 147 147 147 147 147 147 147

	NT	NS	NI	EN I	NA	AD	on F	% D		NT	NS	NI	EN N	NA	AD	%F	%D
MYRTACEAE									Solanum	1	1	0	0	1	0	25.00	1.47
Psidium	1	1	0	0	0	1	100.00	1.47	Subtotal	4	4	0	0	2	2	100.00	5.88
Subtotal	1	1	0	0	0	1	100.00	1.47	TILIACEAE								
NYCTAGINACEAE									Triumfetta	1	1	0	0	0	1	100.00	1.47
Boerhavia	]	1	0	0	0	1	100.00	1.47	Subtotal	1	1	0	0	0	1	100.00	1.47
Subtotal	1	1	0	()	()	1	100.00	1.47	TROPAEOLACEAE								
ONAGRACEAE									Tropaeolum	1	1	0	0	0	1	100.00	1.47
Oenothera	5	2	0	0	0	2	100.00	2.94	Subtotal	1	1	0	0	0	1	100.00	1.47
Subtotal	2	2	0	0	0	2	100.00	2.94	UMBELLIFERAE	•	·				•	100.00	****
OXALIDACEAE									Apium	2	2	0	0	1	1	100.00	2.94
Oxalis	5	2	0	0	0	2	100.00	2.94	Subtotal	2	2	0	0	1	1	100.00	2.94
Subtotal	2	2	0	0	0	2	100.00	2.94	Subtotal	-	-	0	0	1	•	100.00	2,77
D. DU JONE CE A F									VERBENACEAE	,	,	0	0	0		100.00	1.17
PAPILIONACEAE Crotalaria	1	1	()	0	0	1	16.67	1.47	Verbena	1	1	0	0	0	ì	100.00	1.47
Lupinus	1	1	0	0	0	1	16.67	1.47	Subtotal	1	ı	0	0	0	1	100.00	1.47
Medicago	1	ļ	0	0	0	1	16.67	1.47									
Phaseolus	1	]	0	0	()	1	16.67	1.47	VITACEAE								
Sophora	1	1	0	1	0	()	16.67	1.47	Vitis	1	1	0	0	0	1	100.00	1.47
Trifolium	1	1	0	0	0	1	16.67	1.47	Subtotal	1	1	0	0	0	1	100.00	1.47
Subtotal	6	6	0	1	()	5	100 00	8.82								100.00	1.47
									Total	68	68	0	1	5	62		00.00
PLANTAGINACEAE	2	2	0	0	()	2	100.00	2.94									
Plantago	2	2	0	()	0	2	100.00	2.94	MONOCOTULE	DONE	A E	E A R		c /	TENT	EDOC	
																	v
Subtotal	2	2	0	0	0	2	100.00	2.94	MONOCOTYLEI ESPECIES	DONE	EAE:	r Alv.	IILIA	.s, t	JEN!	EKOS	Y
Subtotal POLYGONACEAE	2	2	0	0	0	2	100.00	2.94									
	2	2	0	0	0	2	100.00	2.94		NT	NS	NI	EN 1		AD	%F	<b>Y</b> %D
POLYGONACEAE																	
POLYGONACEAE Polygonum Rumex	1	1	0	0	0	1	50.00 50.00	1.47 1.47	ESPECIES								
POLYGONACEAE Polygonum	1	ł	0	0	0	1	50.00	1.47	ESPECIES  COMMELINACEAE  Commelina	NT	NS -	NI 0	EN 1	NA 0	AD	%F	%D
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE	1 1 2	1 2	0 0	0 0	0 0	1 1 2	50.00 50.00 100.00	1.47 1.47 2.94	ESPECIES  COMMELINACEAE	NT 	NS -	NI	EN 1	NA 	AD -	%F	%D
POLYGONACEAE Polygonum Rumex Subtotal	1	1	0	0	0	1	50.00 50.00	1.47 1.47	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE	NT	NS 1	NI 0 0	0 0	NA 0 0	AD	%F 100.00 100.00	%D 3.03 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca	1 1 2	1 2	0 0	0 0	0 0	1 1 2	50.00 50.00 100.00	1.47 1.47 2.94	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus	NT	NS 1 1 4	NI 0 0	0 0	0 0	AD I	%F 100.00 100.00	%D 3.03 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE	1 1 2	1 2	0 0	0 0	0 0	1 1 2	50.00 50.00 100.00	1.47 1.47 2.94	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE	NT	NS 1	NI 0 0	0 0	NA 0 0	AD	%F 100.00 100.00	%D 3.03 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE	1 1 2	1 2	0 0 0	0 0 0	0 0 0	1 1 1	50.00 50.00 100.00 100.00	1.47 1.47 2.94 1.47	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus	NT	NS 1 1 4	NI 0 0	0 0	0 0	AD I	%F 100.00 100.00 80.00 20.00	%D 3.03 3.03 12.12 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal	1 1 2	1 2	0 0	0 0	0 0	1 1 2	50.00 50.00 100.00	1.47 1.47 2.94 1.47	COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal	NT	NS 1 1 4 1	NI 0 0 0 0 0 0	0 0 0	0 0 0	AD 1 1 4 0	%F 100.00 100.00 80.00 20.00	%D 3.03 3.03 12.12 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE	1 1 2	1 2	0 0 0	0 0 0	0 0 0	1 1 1	50.00 50.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47	COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal GRAMINEAE	NT	NS 1 1 4 1	NI 0 0 0 0 0 0	0 0 0	0 0 0	AD 1 1 4 0	%F 100.00 100.00 80.00 20.00	%D 3.03 3.03 12.12 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE Samolus	1 1 1	1 1	0 0 0 0	0 0 0	0 0 0	1 1 2 1 0	50.00 50.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47	COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal	NT	NS 1 1 4 1 5	NI 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 1	AD 1 1 4 0 4	%F 100.00 100.00 80.00 20.00	%D 3.03 3.03 12.12 3.03 15.15
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE Samolus	1 1 1	1 1	0 0 0 0	0 0 0	0 0 0	1 1 2 1 0	50.00 50.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal GRAMINEAE Axonopus	NT 1 1 1 5 5	NS 1 1 4 1 5 5	NI 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 1	AD 1 1 4 0 4 0	%F 100.00 100.00 80.00 20.00 100.00	%D 3.03 3.03 12.12 3.03 15.15
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE Samolus Subtotal	1 1 1	1 1	0 0 0 0	0 0 0	0 0 0 0	1 1 2 1 0	50.00 50.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal GRAMINEAE Axonopus Bothriochloa Bri/a Bromus	NT	NS 1 1 1 5 5 1 1 1 1 1 1 1	NI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AD 1 1 4 0 0 1 1 1 1 1	%F 100.00 100.00 80.00 20.00 100.00 4.17 4.17 4.17 4.17	%D 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03
POLYGONACEAE Polygonum Rumex  Subtotal  PORTULACACEAE Portulaca  Subtotal  PRIMULACEAE Samolus  Subtotal  SAPINDACEAE Sapindus	1 1 1 1 1	1 1 1 1		0 0 0 0 0 0 0	0 0 0 0 1 1 0	1 1 2 2 1 1 0 0 0 1 1 1	50.00 50.00 100.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina  Subtotal  CYPERACEAE Cyperus Scirpus  Subtotal  GRAMINEAE Axonopus Bothriochloa Bri/a Bromus Cenchrus	NT	NS 1 1 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 0 0 0 0	AD 1 1 4 0 0 1 1 1 1 1 1	%F 100.00 100.00 80.00 20.00 100.00 4.17 4.17 4.17 4.17 4.17	%D 3.03 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03
POLYGONACEAE Polygonum Rumex Subtotal PORTULACACEAE Portulaca Subtotal PRIMULACEAE Samolus Subtotal SAPINDACEAE	1 1 1 1 1	1 1 1	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 1 1 0 0	1 1 2 2 1 1 0 0 0 1 1 1	50.00 50.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina  Subtotal  CYPERACEAE Cyperus Scirpus  Subtotal  GRAMINEAE Axonopus Bothriochloa Briza Bromus Cenchrus Chloris	NT	NS 1 1 1 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 0 0	AD 1 1 4 0 0 1 1 1 1 1 1 1 1	%F  100.00  100.00  80.00 20.00  100.00  4.17 4.17 4.17 4.17 4.17 4.17	3.03 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03
POLYGONACEAE Polygonum Rumex  Subtotal  PORTULACACEAE Portulaca  Subtotal  PRIMULACEAE Samolus  Subtotal  SAPINDACEAE Sapindus  Subtotal	1 1 1 1 1 1	1 1 1 1		0 0 0 0 0 0 0	0 0 0 0 1 1 0	1 1 2 2 1 1 0 0 0 1 1 1	50.00 50.00 100.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina  Subtotal  CYPERACEAE Cyperus Scirpus  Subtotal  GRAMINEAE Axonopus Bothriochloa Briza Bromus Cenchrus Chloris Cynodon	NT	NS 1 1 1 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 0 0 0 0 0 0	AD 1 1 4 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	%F 100.00 100.00 80.00 20.00 100.00 4.17 4.17 4.17 4.17 4.17 4.17	3.03 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03 3.03
POLYGONACEAE Polygonum Rumex  Subtotal  PORTULACACEAE Portulaca  Subtotal  PRIMULACEAE Samolus  Subtotal  SAPINDACEAE Sapindus  Subtotal  SCROPHULARIACEAE	1 1 2 1 1 1 1 1 E	1 1 1 1 1	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 1 1 0 0	1 1 2 2 1 1 0 0 0 1 1 1	50.00 50.00 100.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina Subtotal CYPERACEAE Cyperus Scirpus Subtotal GRAMINEAE Axonopus Bothriochioa Briza Bromus Cenchrus Chloris Cynodon Dichelachne	NT	NS 1 1 1 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 0 0 0 0 0 0 0 0	AD 1 1 4 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	%F  100.00  80.00 20.00  100.00  4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.1	3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03 3.03 3.03
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POLYGONACEAE Polygonum Rumex  Subtotal  PORTULACACEAE Portulaca  Subtotal  PRIMULACEAE Samolus  Subtotal  SAPINDACEAE Sapindus  Subtotal  SCROPHULARIACEAE Verbascum  Subtotal	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1			0 0 0 0 1 1 0 0 0	1 1 2 2 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1	50.00 50.00 100.00 100.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina  Subtotal  CYPERACEAE Cyperus Scirpus  Subtotal  GRAMINEAE Axonopus Bothriochloa Briza Bromus Cenchrus Chloris Cynodon Dichelachne Digitaria Eleusine Eragrostis Hordeum	NT	NS 1 1 1 5 5 1 1 1 1 1 2 2 1 1 1 1 1 1 1 1	NI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	AD  1  4 0  4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	%F  100.00  100.00  80.00 20.00  100.00  4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.1	3.03 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.0
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POLYGONACEAE Polygonum Rumex  Subtotal  PORTULACACEAE Portulaca  Subtotal  PRIMULACEAE Samolus  Subtotal  SAPINDACEAE Sapindus  Subtotal  SCROPHULARIACEAI Verbascum  Subtotal  SOLANACEAE Lycium		1 1 1 1 1 1 1 1 1				1 1 2 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0 0	50.00 50.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00	1.47 1.47 2.94 1.47 1.47 1.47 1.47 1.47 1.47	ESPECIES  COMMELINACEAE Commelina  Subtotal  CYPERACEAE Cyperus Scirpus  Subtotal  GRAMINEAE Axonopus Bothriochloa Briza Bromus Cenchrus Chloris Cynodon Dichelachne Digitaria Ekusine Eragrostis Hordeum Lachnagrostis Melinis	NT	NS 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AD  1 1 4 0 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1	%F  100.00  80.00 20.00  100.00  4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.1	3.03 3.03 3.03 12.12 3.03 15.15 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.0

#### Estadística flora vascular de Chile: C. MARTICORENA

	NT	NS	NI	EN 1	NΑ	ΑĐ	o;, j.	% I
Rytidosperma	1	1	()	1	()	()	4 17	3 03
Sorghum	1	1	()	()	()	1	4.17	3.0.
Sporobolus	1	1	()	()	()	1	4.17	3.0.
Stipa	1	1	()	1	()	()	4.17	3 ().
Vulpia	1	1	()	()	()	1	4.17	3.0.
Subtotal	24	24	()	3	2	19	100 00	72.7
IRIDACEAE								
Sisyrinchium	1	1	()	0	()	1	100 00	3.0.
Subtotal	1	1	()	()	()	l	100.00	3 ().
JUNCACEAE								
Juneus	1	1	()	()	l	()	100.00	3.0
Subtotal	1	1	()	()	1	()	100.00	3.03
LILIACEAE								
Cordyline	1	1	()	0	()	1	100 00	3.0.
Subtotal	1	1	()	0	()	1	100.00	3.0.
Fotal	33	33	. ()	3	4	26		100.00

## PORCENTAJES DE ENDEMICAS, NATIVAS Y ADVENTICIAS

	En la	flora t	otal		En la división o clase					
			\D =							
PTERI	4.27	9.4()	0.00	-		68.75	() ()()			
DICOL	0.85	4.27	55.99		4					
MONOC	2.56	3.40	22.22		21.4	12.12	78.78			
Lotal	7.68	17 09	75.21							

# Las familias con NT mayor de 5 en Isla de Pascua son:

FAM	<b>\1</b>	≪ en la flora
GRAMINEAE	4	20.51
COMPOSITAE		9.4(
PAPILIONACEAE	,	5.13

# RESUMEN DE LA FLORA VASCULAR DE ISLA DE PASCUA

	NE 3	NG	GE	NT	NS	NI.	EN	NA	AD	%D
PTERI	10	1.3	()	16	16	()	5	11	()	13.65
DICOT	31	61	()	68	68	()	1	5	62	58.05
MONOC	6	27	()	33	3.3	()	3	4	26	28.18
Fotal	47 1	101	()	117	117	()	9	20	88	100.00

Fecha de publicación: 30 abril 1991

# NUEVOS GENEROS PARA LA FLORA ADVENA DE CHILE NEW GENERA FOR THE ADVENTITIOUS FLORA OF CHILE

#### Oscar Matthei y Max Quezada\*

#### RESUMEN

Se señalan a *Galeopsis* (Labiatae) con la especie *Galeopsis* tetrahit L. y *Brachypodium* (Poaceae) con la especie *Brachypodium distachyon* (L.) P. Beauv., como nuevos géneros para la flora advena de Chile. Además de las descripciones se indica su distribución, material estudiado y se incluyen dibujos originales.

#### INTRODUCCION

Las colecciones que existen en el país sobre la flora introducida están poco actualizadas, debido principalmente a que tanto botánicos chilenos como extranjeros están más que nada dedicados a recolectar la flora nativa. Hasta el momento, las colecciones existentes de los lugares intervenidos no son abundantes y no existen colecciones exhaustivas realizadas en terrenos cultivados, orillas de caminos o calles de ciudades. El Departamento de Botánica ha iniciado un estudio con el fin de tener un inventario actualizado de toda

#### **ABSTRACT**

Two new genera are described for the adventitious flora of Chile. The genus *Galeopsis* (Labiatae) with the species *Galeopsis tetrahit* L. and the genus *Brachypodium* with the species *Brachypodium distachyon* (L.) P. Beauv. are recognized as new additions to the non native flora of Chile and described. Their distribution as well as original illustrations are appended.

KEYWORDS: Chile, adventive flora, Brachypodium, Galeopsis.

la flora advena presente en el país, especialmente de aquella que interviene en los cultivos.

#### **MATERIALES Y METODOS**

Se estudió el material del herbario de la Universidad de Concepción (CONC); además se realizaron intensas colectas en la VI y X regiones, lo cual dio como resultado que se encontraran dos géneros que no habían sido señalados como integrantes de la flora de Chile. Esta aseveración se basa en el hecho de que no figuran en la obra de Muñoz (1959), ni se encuentran citados en el Catálogo de la flora vascular de Chile (Marticorena y Quezada, 1985).

Se entrega la descripción de las especies, dibujos originales, material estudiado, distribución y observaciones relacionadas con su hábitat.

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#### LABIATAE

Galeopsis tetrahit L.

Linnaeus, Sp. Pl. 579. 1753.

Anual, Tallos robustos, de 10-60 cm de alto, sencillos o ramificados, angulosos, con nodos abultados, densamente cubiertos de pelos sencillos y glandulosos. Hojas opuestas, con pecíolo de 1-4 cm de largo, láminas aovadas a lanceoladas, de 3-8 cm de làrgo por 1.5-5 cm de ancho, base cuneiforme, margen dentado. Flores con brácteas setosas, agrupadas en verticilastros hoiosos, densos, terminales o axilares; cáliz de 10-14 mm de largo, persistente, acampanado, nervado, pubescente, con cinco dientes que se prolongan en espinas tan largas como el tubo calicinal; corola de 12-15 mm de largo, bilabiada, rosada con el margen de los lóbulos blanquecinos; labio superior entero a ligero lobulado, cuculado; labio inferior 3-partido, con el lóbulo central ancho y provisto de dos protuberancias cónicas basales; estambres 4. didínamos: núculas 4, de 2-2.5 mm de largo, oboyadas, con un lado convexo y el otro angular, cicatriz basal. (Lám. 1 B, C, D).

#### OBSERVACIONES:

Originaria de Europa. De acuerdo a Hanf (1982: 330), es una maleza que se encuentra en trigo y cultivos escardados (papas, remolachas, hortalizas). También está presente en Estados Unidos y Canadá (Muenscher 1955: 369). En nuestro país se ha encontrado hasta el momento en las provincias de Osorno y Llanquihue, X Región.

Es una maleza que presenta gran agresividad, debido a que sus abundantes semillas germinan constantemente durante un largo período, de tal modo que en el cultivo se encuentran desde pequeñas plántulas hasta ejemplares en plena fructificación, todo lo cual dificulta su control.

#### MATERIAL ESTUDIADO

X REGION: Provincia de Osorno. Chuyaca. 45 m. (40° 35'S-73° 05'W). 24-XII-1944. RUDOLPH 5433 (VALD); Cañal Bajo, estación Genética. 80 m. (40° 36'S-73° 06'W). 1943 WUNDER s.n. (VALD). Provincia de Llanquihue. El Mirador, entre Alerce y Puerto Varas. 130 m. (41°

20'S-72° 57'W). 18-III-1990. MATTHEI y QUEZADA 973 (CONC).

#### **POACEAE**

*Brachypodium distachyon* (L.) P. Beauv. Palisot de Beauvois, Agrost. 101, 155. 1812.

Anual. Cañas floríferas de 10-25 cm de alto, geniculadas; nodos 1-2, pubescentes. Láminas de 1-3 cm de largo y 3-4 mm de ancho, con pelos esparcidos; lígula de 1-1.5 mm de largo, pestañosa en el ápice; vainas glabras, abiertas. Inflorescencia formada por 2-3 espiguillas sésiles, 3-16 floras, de 3-3.5 cm de largo, aplanadas dorsalmente; glumas menores que la lema contigua, la inferior de 5-6 mm de largo, 7-nervada, la superior de 7-8 mm de largo, 7-nervada; lema de 7-9 mm de largo, con siete venas prominentes, dorso redondeado; arista de 4-10 mm de largo; pálea igualando a la lema, con las carenas pestañosas. Cariopsis de 6-7 mm de largo, con hilo lineal tan largo como el fruto (Lám. 1 A).

#### OBSERVACIONES:

Originaria del sur de Europa. De acuerdo a Bor (1968: 170), se comporta como maleza en terrenos regados de Irak. También está presente en Argentina y Uruguay, donde, según Nicora y Rúgolo de Agrasar (1987: 322), pertenece a la flora adventicia. Hasta el momento sólo se encuentra en la VI Región, donde crece abundantemente a orillas de camino.

#### MATERIAL ESTUDIADO

VI REGIÓN. Provincia Cardenal Caro, 7 km antes de Pichilemu, desde Alcones. 120 m (34°22'S-71°57'W). 30-XI-1989. MATTHEI y OUEZADA 800 (CONC).

#### **AGRADECIMIENTOS**

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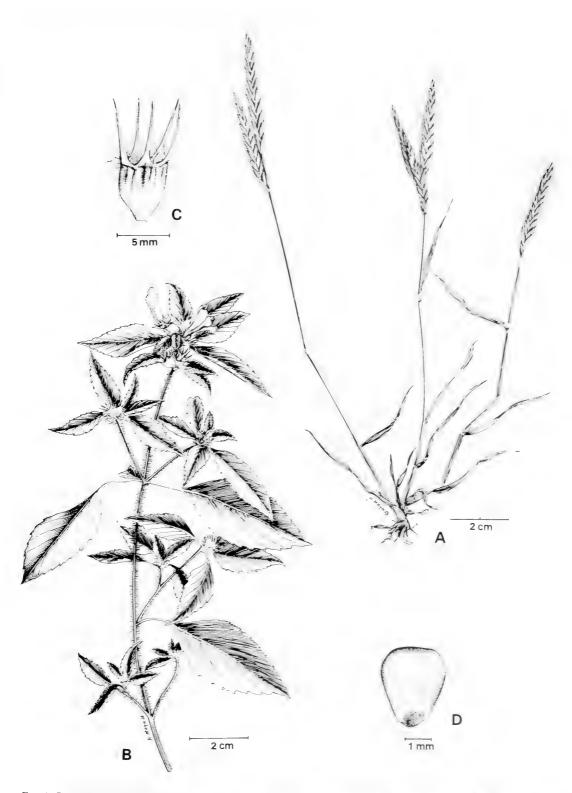


Fig. 1. Brachypodium distachyon (L.) Beauv. A: planta (Matthei y Quezada 800). Galeopsis tetrahit L. B: planta. C: cáliz. D: núcula (Matthei y Quezada 973).

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# A CHECKLIST OF THE NATIVE ANNUAL FLORA OF CONTINENTAL CHILE

#### UN CATALOGO DE LA FLORA ANUAL NATIVA DE CHILE CONTINENTAL

Mary T. Kalin Arroyo\*, Clodomiro Marticorena\*\* and Melica Muñoz\*\*\*

#### ABSTRACT

A checklist of the native annual species of continental Chile is provided. Observations on 4408 native species (over 99%) of the total native vascular flora of continental Chile) indicate the presence of the annual habit in 692 species (15.7% of the flora). Annuals occurs in 196 genera (24.7%) and 53 families (31.2%). There are proportionately more annuals among dicotyledons (19.3%) than among monocotyledons (4.3%), a trend also seen to be statistically significant at the generic level. 358 (51.7%) annual species are fairly certainly endemic to continental Chile, while an additional 18 species (2.6%) are characterized by endemic Chilean infraspecific taxa. A further 20 species are probably endemic to continental Chile as are varieties of 3 species. Seven of Chile's endemic genera (10.4%) are exclusively annual (Cyphocarpus (Campanulaceae); Microphyes (Caryophyllaceae); Moscharia (Asteraceae); Agallis (Cruciferae); Scyphanthus (Loasaceae); Homalocarpus (Umbelliferae); Araeoandra (Vivianaceae)). The frequency of the annual habit in Chile is briefly compared with that of other arid and semi-arid regions.

KEYWORDS: Annual habit; flora of continental Chile; endemic species and genera; mediterranean-type climate.

#### RESUMEN

Se presenta un catálogo de las especies anuales de la flora nativa de Chile continental. Observaciones en 4408 especies (más del 99% de la flora vascular nativa total de Chile continental) indica la presencia del hábito anual en 692 especies (15,7% de la flora). Las anuales pertenecen a 196 géneros (24,7%) y 53 familias (31,2%). La frecuencia del hábito anual es significativamente mayor en las dicotiledóneas (19,3%) que en las monocotiledóneas (4,3%), una tendencia que también es estadísticamente significativa al nivel de género. 358 (51,7%) de las especies anuales son endémicas a Chile continental, en tanto que 18 (2,6%) especies presentan variedades chilenas endémicas. 20 especies adicionales probablemente son endémicas tal como lo son variedades de 3 especies adicionales. Siete de los géneros endémicos de Chile continental (10,4% del total) son exclusivamente anuales (Cyphocarpus (Campanulaceae); Microphyes (Caryophyllaceae); Moscharia (Asteraceae): Agallis (Cruciferae): Scyphanthus (Loasaceae): Homalocarpus (Umbelliferae); Araeoandra (Vivianaceae)). Se compara la frecuencia del hábito anual en la flora nativa de Chile continental con la de otras áreas áridas y semi-áridas.

#### INTRODUCTION

A significant proportion of continental Chile is characterized by arid to semi-arid climates with strongly seasonal or highly irregular rainfall (di Castri & Hajek, 1976). Desert to semi-desert climates extend along the coast and far inland to above 2000 m from the far north (17°S) to

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Sección Botánica, Museo Nacional de Historia Natural, Santiago, Chile.

around 26°S (Arroyo et al., 1988). In central Chile from 32° - 38°S and in interior valleys as far south as 40°S the climate is typically mediterranean (di Castri, 1988). A semi-mediterraneantype climate appears in the extreme eastern border of the Chilean Patagonia (di Castri & Hajek, 1976).

Many temperate semi-arid and arid regions are known to support taxonomically diverse and speciose native annual assemblages. The State of California, with a predominantly mediterraneantype climate, supports 28.6% native annuals (Raven & Axelrod, 1978) while the Sonoran desert is characterized by 21.4% (Shreve & Wiggins, 1964). The flora of Israel, with only 1.7% aliens across all life-forms, supports more than 50% annuals (Eig, 1931, 1932; Danin & Orshan, 1990). A notable exception to this rule, is the mediterranean-type climate Cape region of South Africa with only 6.4% native annuals (Goldblatt, 1978). Vegetation studies also suggest a relatively low percentage of annuals for mediterranean-type climate areas in southern Australia (Adamson, 1927). Interestingly, both mediterranean-type climate areas with lower percentages of annuals are found in the southern hemisphere.

Chile, mainly as a result of a lack of a comprehensive floristic treatment for the country, is one of the last mediterranean-type climate regions to be surveyed for the annual habit. Some data has been forthcoming from vegetation plots, small scale floristic studies and other ecological studies (e.g. Schlegel, 1966; Mooney et al., 1977; Arroyo & Squeo, 1990; Arroyo & Uslar, 1990). Additional information for a few areas may be gleaned from regional floras (e.g. Moore, 1982; Arroyo et. al., 1984; Arroyo et. al., 1988; Arroyo et. al., 1989). However the present state of knowledge of the frequency of the annual habit is insufficient for characterizing the Chilean flora in general.

Here we provide a complete checklist of the native annual species of continental Chile. The information has been gathered in relation to a more comprehensive study of similarities and differences between the vascular floras of Chile and California, to be presented elsewhere. Given the lack of a modern flora, publication of a checklist of the native annuals of Chile seems timely. Such information should be useful to professional

plant ecologists who are presently forced to work with limited botanical literature. Secondly, agronomists interested in native forage crops should benefit from the availability of such a checklist. The checklist has been compiled to a large degree from literature sources. In that some authors give more attention to life-form than others, further observations by field biologists using it constitute the best avenue for its perfection.

#### **INFORMATION SOURCES**

To assess the incidence of the annual habit in continental Chile a data base of all native vascular plant species occurring there was developed. By continental Chile we mean mainland Chile excluding the Juan Fernández Islands, the San Ambrosio and San Felix Islands and Easter Island, all under Chilean jurisdiction. The data base relied on the checklist of the Chilean flora published by Marticorena & Quezada (1985), as baseline information, modified as follows. Species in the Marticorena & Quezada (1985) checklist restricted to the forementioned island territories of Chile and all introduced species in the list were excluded. The reduced list was further emended for new species, numerous synonymy changes published after 1985 and corrections of the alien status of some species. Infraspecific taxa are not considered. The final data base contained 4443 native vascular plants species distributed in 793 genera and 170 fami-

For assessing the annual habit the relevant life-form information for many species was obtained directly from recent generic revisions. For others we found it necessary to rely on the older Reiche (1896-1911) flora, local floras for Argentina and Chile (e.g. Moore, 1982; Correa, 1971) and original species descriptions. Such information was complemented with our own field knowledge of life-forms and consultation of herbarium material.

Fairly reliable information was found for a total of 4408 (>99% of the 4443) names in the continental checklist. For the present purposes, 20 species, given as "probably annual" are given the benefit of the doubt. Species varying in habit from an annual to biennial or perennial herb are designated as facultatively annual. Annual spe-

cies and genera with annuals endemic to continental Chile are indicated.

# CHECKLIST OF THE NATIVE ANNUALS OF CONTINENTAL CHILE

(fa) following the specific epithet indicates a facultative annual. Probable annuals are followed by (a?). All other species are considered obligate annuals. Annual species endemic to continental Chile are indicated by (e). Annual species which contain an endemic variety in Chile are indicated by (ev). Genera endemic to Chile with annuals are designated by (E). The questioned endemics (?) are unsure endemics. (nv) following a specific epithet indicates a species occurring in Chile represented by a native variety in addition to an alien variety.

#### **PTERIDOPHYTA**

#### **SALVINIACEAE**

#### Azolla

filiculoides Lam.

#### ANGIOSPERMAE: DICOTYLEDONEAE

#### **AIZOACEAE**

#### Tetragonia

copiapina Phil. (e) espinosae Muñoz (e) macrocarpa Phil. (ev) pedunculata Phil. tenella Johnst. (e) trigona Phil. (fa)(e)

#### **AMARANTHACEAE**

#### Amaranthus

asplundii Thell. looseri Suess. (e)

#### Gomphrena

umbellata Remy

#### **ASTERACEAE**

#### Agoseris

chilensis (Less.) Greene (e) coronopifolia (D'Urv.) Chamb. ex D.M. Moore (fa)

#### Amblyopappus

pusillus H. et A.

#### **Bidens**

andicola Kunth. (fa)

#### Blennosperma

chilense Less. (e)

#### Chaetanthera

aymarae Martic, et Ouez, (e) ciliata R. et P. (e) euphrasioides (DC.) Meigen flabellata D. Don (e) flabellifolia Cabr. (e) glabrata (DC.) Meigen (e) gnaphalioides (Remy) Johnst. incana Poepp. ex Less. (e) leptocephala Cabr. (e) limbata (D. Don) Less. (e) linearis Poepp. ex Less. (e) microphylla (Cass.) H. et A. (ev) minuta (Phil.) Cabr. moenchioides Less. (e) planiseta Cabr. (e) pusilla (D. Don) H. et A. splendens (Remy) B.L. Rob. tenella Less. (e)

#### Conyza

artemisiifolia Meyen et Walp. bustillosiana Remy (e) copiapina Phil. (a?)(e) floribunda H.B.K. (fa) glabrata Phil. (fa)(e) hirtella (DC.) Martic. (e)\* lechleri (Sch. Bip.) Cabr. minutiflora Phil. (e)

<sup>\*</sup> Conyza hirtella (De Candolle) Marticorena, nov. comb. Basiónimo: Erigeron hirtellus De Candolle, Prodr. 5: 290. 1836.

#### Cotula

mexicana DC.

#### Doniophyton

anomalum (D. Don) Kurtz patagonicum (Phil.) Hieron.

#### Eclipta

prostrata (L.) L. (fa)

#### Erechtites

leptantha (Phil.) Cabr. (e)

#### Facelis

plumosa (Wedd.) Sch. Bip. retusa (Lam.) Sch. Bip. (ev)

#### Flaveria

bidentis (L.) O.K.

#### Galinsoga

parviflora Cav. quadriradiata R. et P.

#### Gamochaeta

monticola (Phil. ex Reiche) Cabr. simplicicaulis (Willd. ex Sprengel) Cabr. sphacelata (H.B.K.) Cabr. stachydifolia (Lam.) Cabr.

#### Gnaphalium

aldunateoides Remy cheiranthifolium Lam. (fa) cymatoides Kunze ex DC. (ev) diminutivum Phil. (e?) heterotrichum Phil. (e) moelleri Phil. perpusillum Phil. (e?) phaeolepis Phil. (e) pratense Phil. ramosum Phil. (e)

#### Helenium

aromaticum (Hook.) Bailey (fa)(e) atacamense Cabr. (fa)(e) ovallense Bierner (fa)(e) urmenetae (Phil.) Cabr. (fa)(e) vallenariense (Phil.) Bierner (fa)(e)

#### Heterosperma

nanum (Nutt.) Sherff ovatifolium Cav.

#### Hieracium

antarcticum D'Urv.

#### Lasthenia

kunthii (Less.) H. et A. (e)

#### Leucheria

cerberoana Remy (e)
cumingii H. et A. (e)
glabriuscula (Phil.) Reiche (e)
glandulosa D. Don (e)
menana Remy (e)
oligocephala Remy (e)
senecioides H. et. A. (e)
tenuis Less. (e)

#### Madia

chilensis (Nutt.) Reiche (e) sativa Mol.

#### Malacothrix

chevelandii A. Gray coulteri A. Gray

#### Micropsis

nana D.C.

#### Microseris

pygmaea D. Don

#### Moscharia (E)

pinnatifida R. et P. (e) solbrigii Crisci (e)

#### **Polyachyrus**

annuus Johnst.

#### Psilocarphus

brevissimus Nutt.

#### Schkuhria

multiflora H. et A. pinnata (Lam.) O.K.

#### Senecio

troncosii Phil. (e)

#### Sigesbeckia

iorullensis H.B.K.

#### Soliva

pterosperma (A.L. Juss.) Less. sessilis R. et P. (e) stolonifera (Brot.) Loud. valdiviana Phil.

#### **Tagetes**

biflora Cabr. minuta L. multiflora H.B.K.

#### Triptilion

achilleae DC. (fa) berteroi Phil. (a?)(e) capillatum (D. Don) DC. (e) cordifolium Lag. ex Lindl. (e) diffusum (D. Don) DC. (a?)(e) digitatum Phil. (e) dusenii O. Hoffm. (e) euphrasioides Bert, ex DC. (e) gibbosum Remy (e)

#### Verbesina

encelioides (Cav.) B. et H. ex A. Gray (fa)

#### Villanova

oppositifolia Lag.

#### Xanthium

argenteum Widder (e)

#### **BORAGINACEAE**

#### Amsinckia

calycina (Moris) Chater tessellata A. Gray

#### Cryptantha

alfalfalis (Phil.) Johnst. (e) aspera (Phil.) Grau (e) calycina (Phil.) Reiche (e) calycotricha Johnst. (e) chaetocalyx (Phil.) Johnst. (e) chispae Grau (e) clandestina (Trev.) Johnst. (e) cynoglossoides (Phil.) Johnst. dichita (phil.) Johnst. (e)

di fussa (Phil.) Johnst. dimorpha (Phil.) Greene (e) diplotricha (Phil.) Reiche dolichophylla (Phil.) Reiche (e) filaginea (Phil.) Reiche filiformis (Phil.) Reiche (e) gavi Johnst. (fa)(e) globulifera (Clos) Reiche glomerata Lehm. (e) haplostachya (Phil.) Johnst. (e) hispida (Phil.) Reiche (e) involucrata (Phil.) Reiche (fa)(e) kingii (Phil.) Reiche (e) marticorenae Grau (e) parviflora (Phil.) Reiche phaceloides (Clos) Reiche (e) romanii Johnst. (e) taltalensis Johnst. (e) volckmannii (Phil.) Johnst. (e) werdermanniana Johnst. (e)

#### Heliotropium

geissei F. Phil. (e) microstachyum R. et P. paronychioides A.DC.

#### Myosotis

antarctica Hook, f. (fa)

#### Pectocarva

anomala Johnst. dimorpha (Johnst.) Johnst. linearis (R. et P.) DC. pusilla (A.DC) A. Gray

#### **Plagiobothrys**

armeriifolius (Phil.) Johnst. (e) calandrinoides (Phil.) Johnst. collinus (Phil.) Johnst. (e) corymbosus (R. et P.) Johnst. (e) fulvus (H. et A.) Johnst. (e) gracilis (R. et P.) Johnst. (e?) myosotoides (Lehm.) Brand oppositifolius (Phil.) Johnst. (e) polycaulis (Phil.) Johnst. (fa)(e) pratensis (Phil.) Johnst. (e) procumbens (Colla) A. Gray pulchellus (Phil.) Johnst. (e) uliginosus (Phil.) Johnst. (e) verrucosus (Phil.) Johnst.

#### CALLITRICHACEAE

#### Callitriche

antarctica Engelm, ex Hegelm. hermafroditica L. lechleri (Hegelm.) Fassett palustris L. terrestris Rafin.

#### **CALYCERACEAE**

#### **Boopis**

gracilis Phil. pusilla Phil. (e)

#### Calycera

eryngioides Remy integrifolia (Phil.) Reiche (e) leucanthema (Poepp.) Reiche (e?) sessiliflora Phil. (e)

#### Moschopsis

monocephala (Phil.) Reiche (fa)

#### CAMPANULACEAE

#### Cyphocarpus (E)

innocuus Sandw. (e) psammophilus Ricardi (e) rigescens Miers (e)

#### Downingia

pusilla (Poepp. ex Cham.) Torr.

#### Legenere

valdiviana (Phil.) Wimmer (fa)

#### Lobelia

alata Labill.

#### Triodanis

biflora (R. et P.) Greene

#### CAPPARACEAE

#### Cleome

chilensis DC. (ev?)

#### CARYOPHYLLACEAE

#### Arenaria

oligosperma Naud. (a?)(e?)

#### Drymaria

cordata (L.) Willd. ex Roem. et Schult. engleriana (Muschl.) Baehni et MacBr. paposana Phil. (ev)

#### Microphyes (E)

litoralis Phil. (e) minimus (Bertero ex Colla) (Briq.) (e) robustus Ricardi (e)

#### Minuartia

acutiflora (Fenzl) Mattf.

#### Sagina

apetala Ard. (ev?) chilensis Naud.

#### Spergularia

cremnophila Johnst. (fa)(e) denticulata Phil. (e) platensis (Cambess) Fenzl stenocarpa (Phil.) Johnst. (fa)

#### Stellaria

abortiva Naud. (e?)

#### **CHENOPODIACEAE**

#### Atriplex

chilensis Colla (e) myriophylla Phil. oreophila Phil. peruviana Moq. philippii R. E. Fries (e)

#### Chenopodium

ambrosioides L. (fa)
antarcticum (Hook. f.) Hook. f.
carnosulum Moq.
frigidum Phil.
macrospermum Hook. f.
papulosum Moq.
petiolare H.B.K.
philippianum Aellen
quinoa Willd.

#### Nitrophila

atacamensis (Phil.) Hieron, ex Ulbr. (fa)

#### Suaeda

patagonica Speg.

#### **CRASSULACEAE**

#### Crassula

closiana (Gay) Reiche (e) connata (R. et P.) Berger decumbens Thunb. moschata G. Forster ovallei (Phil.) Reiche (e) peduncularis (J.E. Sm.) Meigen solieri (Gay) Meigen tillaea Lest.-Garl.

#### **CRUCIFERAE**

#### Agallis (E)

lanata (Barn.) Gilg et Muschl. ex O.E. Schultz (e)

#### Cardamine

chilensis (e?) DC. nivalis Gill. ex Hook. et Arn. (e) solisii Phil. (e?).

#### Coronopus

leptocarpus Boelcke (e)

#### Cremolobus

chilensis (Lag. ex DC.) DC.

#### Descurainia

cumingiana (Fisch. et Mey.) Prantl (fa)(ev) diversifolia O.E. Schulz (e) glaucescens (Phil.) O.E. Schulz (fa) nuttallii (Colla) O.E. Shulz (a?)(e) pinnata (Walter) Britton stricta (Phil.) Prantl ex Reiche (fa)(ev)

#### **Diplotaxis**

chilensis Barn. (e)

#### Draba

australis R. Br.

#### Lepidium

aletes Macbr.
angustissimum Phil. (e)
auriculatum Regel et Koern. (fa)(e)
bipinnatifidum A.N. Desv. (fa)
brevicaule Barn. (e)
curicoanum Phil. (e)
johnstonii C. Hitch. (e)
myrianthum Phil.
nitidum Nutt. ex Torr. et Gray (e)
pseudo-didymus Thell. ex Druce (fa)
pubescens A.N. Desv.
rahmeri Phil. (fa)
raimondii O.E. Schulz
strictum (S. Wats.) Rattan.
subvaginatum Steud. ex Thell. (fa)

#### Menonvillea

chilensis (Turcz.) Jacks. (e) filifolia Fischer et C. Meyer (fa)(e) gayi Phil. linearis DC. (fa)(e) litoralis (Barn.) Rollins (e) minima Rollins (e) orbiculata Phil. (fa)(e) pinnatifida Barn. (fa)(e)

#### Rorippa

austroamericana Mart.-Lab. (fa) philippiana (Speg.) Maclosk. (fa)

#### Schizopetalon

arcuatum Al-Shehbaz (e)
bipinnatifidum Phil. (e)
biseriatum Phil. (e)
brachycarpum Al-Shehbaz (e)
corymbosum Al-Shehbaz (e)
dentatum (Barn.) Gilg et Muschl. (e)
maritimum Barn. (e)
rupestre (Barn.) Reiche
tenuifolium Phil. (e)
walkeri Hook. (e)

#### Thlaspi

alpestre (ev?)

#### ELATINACEAE

#### Elatine

triandra Schkuhr (fa)

#### EUPHORBIACEAE

#### Euphorbia

germainii Phil. (e) meyeniana Klotzsch (fa) minuta Phil. pygmaea Phil. (e) tarapacana Phil. (e) verna Phil. (e)

#### **GENTIANACEAE**

#### Centaurium

cachanlahuen (Mol.) B.L. Rob.

#### Cicendia

quadrangularis (Lam.) Griseb.

#### Gentiana

lactea Phil. (e) prostrata Haenke (fa)

#### Gentianella

magellanica (Gaud.) Fabris ex D.M. Moore (fa)

#### **GERANIACEAE**

#### Geranium

intermedium Colla, ex Savi (e)

#### HYDROPHYLLACEAE

#### Nama

dichotomum (R. et P.) Choisy undulatum H.B.K. (ev).

#### Phacelia

brachyantha Benth. cumingii (Benth.) A. Gray nana Wedd. pinnatifida Griseb. ex Wedd. (fa) setigera Phil.

#### LABIATAE

#### Salvia

paposana Phil.

#### Stachys

eremicola Epling (e) gilliesii Benth. (fa) truncata Kunze ex Benth. (e)

#### LOASACEAE

#### Caiophora

contorta (Desr.) Urban et Gilg dissecta (Hook.) Urban et Gilg (fa)(e) tomentosula Urban et Gilg (fa)(e)

#### Loasa

aphanantha Urban et Gilg artemisiifolia (Poepp.) Urban et Gilg (fa)(e) bertrandii Phil. (e) caespitosa Phil. (e) chilensis (gay) Urban et Gilg (e) floribunda H. et A. (e) gavana Urban et Gilg (e) intricata Gay (e) lateritia Gill. ex Arn. longiseta Phil. (e) malesherbioides Phil. (e) martinii Phil. (e) micrantha Poepp. (e) multifida Gay (a?)(e) pallida Gill. ex Arn. (e) tricolor Ker-Gawl. (ev) triloba Domb, ex A.L. Juss. (e) urens Jacq. urmenetae Phil. (e) volubilis Domb. ex A.L. Juss. (fa)(e)

#### Mentzelia

bartonioides (K. Presl) Urban et Gilg pinnatifida (Phil.) Urban et Gilg solieri (Gay) Urban et Gilg

#### Scyphanthus (E)

elegans D. Don (fa)(e) stenocarpus (Poepp.) Urban et Gilg (fa)(e)

#### LYTHRACEAE

#### Pleurophora

polyandra H. et A. (e) pusilla H. et A. (e)

#### MALESHERBIACEAE

#### Malesherhia

gabrielae Ricardi (e) humilis Poepp. (e) multiflora Ricardi (e) taltalina Ricardi (e)

#### **MALVACEAE**

#### Cristaria

adenophora Johnst. (e) australis Phil. (e) cvanea Phil ex E. Baker (e) dissecta H. et A. divaricata Phil. ex E. Baker diversifolia Phil. (e) elegans Gay (a?)(e) eriantha H. et A. (fa)(e) flexuosa Phil. (a?)(e) formosula Johnst. glandulosa Phil. (e) heterophylla (Cav.) H. et A. (e) hirsuta K. Presl (e) humilis Phil. (e) inconspicua F., Phil. ex Phil. (e) integerrima Phil. (fa)(e) intermedia Gay (fa)(e) intonsa Johnst. (e) molinae Gay (e) ovallea Gay (e) patens Phil. (e) pinnatifida H. et A. (e) ranunculifolia Phil. ex E. Baker (e) rotundifolia Phil. (e) saniculifolia Phil. ex E. Baker (e) sundtii Phil. (e) trifida Phil. (e) univittata Hochr. (e)

#### Lecanophora

heterophylla (Cav.) Krap. (e)

#### Nototriche

diminutiva (Phil.) Johnst. (e) nana A.W. Hill pusilla A.W. Hill pygmaea (Remy) A.W. Hill sarmentosa A.W. Hill

#### Palaua

inconspicua Johnst. modesta (Phil.) Reiche (e)

#### Tarasa

antofagastana (Phil.) Krap. congestiflora (Johnst.) Krap. tarapacana (Phil.) Krap. tenella (Cav.) Krap. umbellata Krap. (e)

#### Urocarpidium

chilense (Braun et Bouché) Krap. peruvianum (L.) Krap.

#### MOLLUGINACEAE

#### Glinus

radiatus (Ruiz et Pavón) Rohrb.

#### **NOLANACEAE**

#### Nolana

aplocaryoides (Gaud.) Johnst. (e) baccata (Lindl.) Dunal (e) gracillima Johnst. intonsa I.M. Johnst. (fa)(e) parviflora (Phil.) Phil. (e) pterocarpa Phil. ex Wettst. (e) rhombifolia Martic. et Quez. (e)

#### **ONAGRACEAE**

#### Camissonia

dentata (Cav.) Reiche (ev)

#### Clarkia

tenella (Cav.) Lewis et Lewis (ev)

#### Gayophytum

humile A.H.L. Juss. micranthum H. et A.

#### Oenothera

affinis Cambess. arequipensis Munz et Johnst. coquimbensis Gay (e) grisea W. Dietr. (e)

#### Gayana, Bot. 47 (3-4), 1990

magellanica Phil. (fa) nana Griseb. (fa) odorata Jacq. peruana W. Dietr. (fa) picensis Phil. ravenii W. Dietr. (fa)(ev) rubida Rusby sandiana Hassk. villaricae W. Dietr. (fa)

#### **OXALIDACEAE**

#### Oxalis

aberrans Reiche (e)
clandestina Phil. (fa)(e)
compacta Gill. ex Hook. et Arn. (fa)(ev)
laxa H. et A.
leptocaulos Phil. (fa)(e)
ovalleana Phil. (e)
pubescens H.B.K.
rigida (Barn.) Lourt.
rosea Jacq. (e)
valdiviensis Barn. (fa)

#### **PAPAVERACEAE**

#### Argemone

hunnemannii Otto et Dietr. (fa)(e) rosea Hook. (e) subfusiformis Ownbey

#### **PAPILIONACEAE**

#### Adesmia

capitellata (Clos) Haum. eremophila Phil. (fa)(e) filifolia Clos (e) micrantha Phil. (e) multicuspis Clos (e) muricata (Jacq.) DC. parviflora Clos (e) pusilla Phil. (e) rahmeri Phil. (fa) tenella H. et A. (e)

#### Astragalus

berteroanus (Moris) Reiche (e) coquimbensis (H. et A.) Reiche (e)

dodtii Phil. (e) paposanus Johnst. (e) pissisii (phil.) Johnst. (e) triflorus (DC.) A. Gray

#### Dalea

moquehuana Macbr.

#### Lathyrus

campestris Phil. crassipes Gill. ex H. et A.

#### Lotus

subpinnatus Lag.

#### Lupinus

microcarpus Sims

#### Trifolium

chilense H. et A. (e) circundatum Kunze (e) depauperatum A.N. Desv. macraei H. et A. microdon H. et A. physanthum H. et A. (e) triaristatum Bert. et Savi vernum Phil. (e)

#### Vicia

acerosa Clos berteroana Phil. (a?)(e?) ciliaris Phil. (a?)(e?) graminea J.E. Sim. inconspicua Phil. (e?) leyboldii Phil. (fa)(e?) magnifolia Clos (e?) micrantha H. et A. (e?) modesta Phil. (e?) moorei Phil. (a?)(e?) sessiliflora Clos (a?)(e?) subserrata Phil. (e?) truncata Phil. (a?)(e?) vicina Clos (e?)

#### **PLANTAGINACEAE**

#### Plantago

firma Kunze et Walp. hispidula R. et P. (e) limensis Pers. litorea Phil. (e) pulvinata Speg. (fa) rancagua Steud. (e)

#### **POLEMONIACEAE**

#### Collomia

biflora (R. et P.) Brand cavanillesii H. et A. (e)

#### Gilia

crassifolia Benth. glutinosa Phil. laciniata R. et P. valdiviensis Griseb.

#### **Ipomopsis**

gossypifera (Gill. ex Benth.) Grant

#### Linanthus

pusillus (Benth.) Greene (e)

#### Microsteris

gracilis (Dougl. ex Hook.) Greene

#### Navarretia

involucrata R. et P.

#### Polemonium

micranthum Benth

#### **POLYGALACEAE**

#### Polvgala

gayi A. Benn. (fa)(e)

#### POLYGONACEAE

#### Chorizanthe

commisuralis Remy (e)

#### Lastarriaea

chilensis Remy (e)

#### Oxytheca

dendroidea Nutt.

#### PORTULACACEAE

#### Calandrinia

acuminata Phil. (e) arenaria Cham. (e) bandurriae Phil. berteroana Phil. (e) cachinalensis Phil. (e) cephalophora Johnst. (e) chrysantha Johnst. (e) ciliata (R. et P.) DC. (a?) compressa Schrad, ex DC. (e) coquimbensis Barn. (e) cumingii H. et A. (e) cymosa Phil. (e) demissa Phil. (e) densiflora Barn. erythrocoma Phil. (e) glaucopurpurea Reiche (e) glomerata Phil. (e) litoralis Phil. (e) longiscapa Barn. (e) modesta Phil. oblongifolia Barn. (e) parviflora Phil. (e) polycarpoides Phil. ramosissima H. et A. (e) speciosa Lehm. (e) spicata Phil. (e) spicigera Phil. (e) stricta Phil. (e) thyrsoidea Reiche (e) trifida H. et A. (e) villanuevae Phil. (a?)(e)

#### Monocosmia

monandra (R. et P.) Baillon

#### Montia

fontana L.

#### Philippiamra

amaranthoides (Phil.) O.K. (e) celosioides (Phil.) O.K. (e) fastigiata (Phil.) Pax ex K. Hoffm. (e)

#### PRIMULACEAE

#### Anagallis

minima (L.) Krause

Androsace salasii Kurtz

Pelletiera verna St.-Hil.

#### **RANUNCULACEAE**

Myosurus

apetalus Gay patagonicus Speg.

Ranunculus

apiifolius Pers. bonariensis Poir. chilensis DC. flagelliformis J.E. Sm. pseudotrullifolius Skottsb.

#### ROSACEAE

**Aphanes** 

berteroana Rothm. (e) looseri (Rothm.) Rothm. (e) neglecta (Rothm.) Rothm.

#### RUBIACEAE

Cruckshanksia

pumila Clos (e) tripartita Phil. (fa)(e)

Galium

fuegianum Hook. f. (fa) aparine L.\*\*

#### SANTALACEAE

Quinchamalium

berteroanum Phil. (e) bracteosum Phil. (e) carnosum Phil. (fa)(e) excrescens Phil. (e) litorale Phil. (e) parviflorum Phil. (e)

#### **SAXIFRAGACEAE**

Lepuropetalon

spathulatum (Muhl.) Elliot

#### **SCROPHULARIACEAE**

Bartsia

chilensis Benth. (e)

Calceolaria

bipinnatifida Phil. hollermayeri Kraenzl. (e) scabiosifolia Sims

Euphrasia

antarctica Benth. meiantha Clos (fa) perpusilla Phil. (e)

Limosella

australis R. Br.

Lindernia

dubia (L.) Pennell (fa)

Mimulus

acaulis Phil. (e) bridgesii (Benth.) Clos (e) depressus Phil. (e) glabratus H.B.K. luteus L. (fa)(ev) nanus Phil.

Orthocarpus

attenuatus A. Gray laciniatus (H. et A.) Keck

#### SOLANACEAE

Cacabus

flavus Johnst. integrifolius Phil. (e)

Nicandra

physalodes (L.) Gaertn.

Nicotiana

acuminata (Graham) Hook. (ev)

<sup>\*\*</sup>The status of *Galium aparine* L. in Chile is complex. Dempster (1981) states "it is highly probable that South American plants are for the most part native, but that the species has also been introduced from Europe...".

corymbosa Remy linearis Phil. longibracteata Phil. miersii Remy (e) noctiflora Hook. (fa) pauciflora Remy (e) petunioides (Griseb.) Millan undulata R. et P.

#### Reyesia

parviflora (Phil.) Hunz.

#### Schizanthus

alpestris Poepp. ex Benth. (e) candidus Lindl. (fa)(e) grahamii Gill. ex Hook. hookeri Gill. ex Graham (fa)(e) integrifolius Phil. (e) lacteus Phil. (e) laetus Phil. (e) litoralis Phil. (e) parvulus Sudzuki (e) pinnatus R. et P. (e) porrigens Graham (e) tricolor Grau et Gronb. (e)

#### Solanum

andinum Reiche (a?)(e)
euacanthum Phil.
furcatum Dunal ex Poir.
gaudichaudii Dunal (e)
heterantherum Witasek ex Reiche (e)
maritimum Meyen ex Nees (e)
nigrum L. (ev)
patagonicum Morton (fa)
pentlandii Dunal

#### **UMBELLIFERAE**

#### Apium

laciniatum (DC.) Urban (ev) leptophyllum (Pers.) F. Muell. ex Benth.

#### Asteriscium

aemocarpon Clos (e) closii (O.K.) Math. et Const. (e)

#### **Bowlesia**

incana R. et P. macrophysa Zoell. (e)

paposana Johnst. (e) sodiroana Wolff uncinata Colla (e)

#### Daucus

montevidensis Link ex Sprengel (a?)

#### Domeykoa

oppositifolia Phil. (e)

#### Eryngium

anomalum H. et A. (e) coquimbanum Phil. ex Urban (e) depressum H. et A. (e) macracanthum Phil. (e) pulchellum Phil. (e)

#### Homalocarpus (E)

bowlesioides H. et A. (e) dichotomus (Poepp. ex DC.) Math. et Const. (e) digitatus (Phil.) Math. et Const. (e) dissectus Math. et Const. (e) integerrimus (Turcz.) Math. et Const. (e) nigripetalus (Clos) Math. et Const. (e)

#### URTICACEAE

#### Parietaria

debilis G. Forster

#### Urtica

berteroana Phil. flabellata H.B.K.

#### **VALERIANACEAE**

#### Plectritis

samolifolia (DC.) Hoeck (e)

#### Valeriana

aequiloba Clos (e) crispa R. et P. (e) floribunda Phil. (e) grandifolia Phil. (e) oreocharis Phil. (e) polemoniifolia Phil. sphaerocarpa Phil. (e) valdiviana Phil. (e) virescens Clos

#### VERBENACEAE

#### Verbena

dissecta Willd. (a?)

#### **VIOLACEAE**

#### Viola

araucaniae Becker (e) aurata Phil. (e)

auricula Leyb. (e)

bicolor Reiche (e)

brachypetala Gay (a?)(e)

calderensis Becker (e)

chamaedrys Leyb. (e)

chrysantha Phil.

domeykoana Gay

frigida Phil. (ev)

glechomoides Leyb. (e)

godoyae Phil. (e)

johnstonii Becker (e)

litoralis Phil. (e)

llullaillacoensis Becker (e)

minutiflora Phil. (e)

nubigena Leyb. (e)

ovalleana Phil. (e)

polypoda Turcz. (e)

pulchella Leyb. ex Reiche (e)

pulvinata Reiche (e)

pusilla Poepp. (e)

rhombifolia Leyb. (e)

taltalensis Becker (e)

vallenarensis Becker (e)

werdermannii Becker (e)

#### **VIVIANACEAE**

#### Araeoandra (E)

tenuicaulis (Barn.) Lefor (e)

#### ANGIOSPERMAE:

#### MONOCOTYLEDONEAE

#### AMARYLLIDACEAE

#### Alstroemeria

graminea Phil. (e)

#### **CYPERACEAE**

#### Cyperus

rivularis Kunth volckmannii Phil. (e)

#### Scirpus

cernuus Vahl (nv)

#### **GRAMINEAE**

#### Agrostis

gelida Trin. (e) oligoclada Phil. (e) serranoi Phil. (e)

#### Alòpecurus

heleochloides Hackel (e)

#### Routeloua

simplex Lag.

#### **Bromidium**

anomalum (Trin.) Doell trisetoides (Steud.) Rugolo (e)

#### Bromus

berterianus Colla gunckelii Matthei (e)

#### Chaetotropis

chilensis Kunth

#### Deschampsia

airiformis (Steud.) Benth. berteroana (Kunth) Trin. (e) danthonioides (Trin.) Munro ex Benth. (e) looseriana Parodi (e) monandra Parodi (e)

#### Diplachne

uninervia (J. Presl) Parodi

#### Eragrostis

mexicana (Hornem.) Link virescens J. Presl

#### Hordeum

pusillum Nutt.

Koeleria

grisebachii Domin

Muhlenbergia

peruviana (P. Beauv.) Steud.

Munroa

andina Phil. decumbens Phil.

**Phalaris** 

amethystina Trin. angusta Nees ex Trin.

Poa

pumila Phil. (a?)

Polypogon

linearis Trin. (e)

Stipa

annua Mez

Trichoneura

weberbaueri Pilger

Vulpia

antofagastensis Parodi australis (Nees) Blom eriolepis (Desv.) Blom **JUNCACEAE** 

Juneus

bufonius L. capitatus Weigel

LILAEACEAE

Lilaea

scilloides (Poir.) Haum.

#### CONCLUDING REMARKS

692 (15.7%) of the native vascular plant species of continental Chile are annual or facultatively annual (Table 1). The annual habit is found in 196 (24.7%) native genera and 53 (31.2%) native plant families (Table 1). The frequency of the annual habit is significantly higher among dicotyledons than among monocotyledons at the species, generic and familial levels (Table 1). The ten largest genera for annuals in continental Chile are: *Calandrinia* (Portulacaceae) - 31 spp.; *Cryptantha* (Boraginaceae) - 29 spp; *Cristaria* (Malvaceae) - 27 spp.; *Viola* (Violaceae) - 26 spp; *Loasa* (Loasaceae) - 20 spp.; *Chaetanthera* 

TABLE I. Summary of frequency of annual habit in the native flora of continental Chile

	N° species studied	Obligate annuals	Facultat.	Probably annuals	Total species		Genera		Families	
					N	%	N	%	N	%
ANGIOSPERMAE	4282	592	79	20	691	16.14	195	26.17	52	34.90
Dicotyledoneae	3374	554	79	19	652	19.32	171	29.38	47	37.90
Monocotyledoneae	908	38	0	1	39	4.30	24	14.72	5	20.00
GYMNOSPERMAE	16	0	0	0	0	0	0	0	0	0
PTERIDOPHYTA	110	1	0	0	1	0.91	1	2.56	1	5.88
TOTAL VASCULAR FLORA	4408	593	79	20	692	15.70	196	24.72	53	31.18

G = 150.34\*\*\* (dicots, versus monocots, species level); G = 15.42\*\*\* (dicots, versus monocots, generic level); G = 3.090; NS (dicots, versus monocots, familial level).

(Asteraceae) - 18 spp.; Lepidium (Cruciferae) - 15 spp.; Plagiobothrys (Boraginaceae) and Vicia (Papilionaceae) - 14 spp.; Oenothera (Onagraceae) - 13 spp. However is should be noted that many of the annuals cited for Vicia require further confirmation. Moreover Calandrinia, Cristaria, Viola, Loasa. Plagiobothrys and Vicia require revision. The final number of annual species in these genera judging by the trend seen in other recently revised Chilean genera, might turn out to be lower than presently indicated. Other important genera for annuals in Chile are Schizanthus (Solanaceae) with 12 species, and Gnaphalium (Asteraceae), Schizopetalon (Cruciferae), Oxalis (Oxalidaceae), and Adesmia (Papilionaceae), all with 10 species.

358 (51.7%) annual species are fairly certainly endemic to continental Chile, while an additional 18 species (2.6%) are characterized by endemic Chilean infraspecific taxa. A further 20 species are probably endemic to continental Chile as are varieties of 3 species. Recent work (Marticorena, unpublished) has shown that 67 (8.5%) of native genera are endemic to continental Chile. Interestingly, seven endemic genera (10.4%) are exclusively annual to facultatively annual in habit (Cyphocarpus (Campanulaceae); Microphyes (Caryophyllaceae); Moscharia (Asteraceae); Agallis (Cruciferae); Scyphanthus (Loasaceae); Homalocarpus (Umbelliferae); Araeoandra (Vivianaceae)). These genera, all small, undoubtedly evolved very recently in Chile, as of the Tertiary with the development of arid climates (Arroyo et al., 1988). Such genera constitute interesting material for detailed evolutionary studies in that their ancestors are very likely to be found directly in the extant Chilean flora.

Continental Chile clearly possesses proportionately fewer annuals than the State of California (Raven & Axelrod, 1978) yet more than the Cape floristic region of South Africa (Goldblatt, 1978). Because continental Chile extends further into higher and lower latitudes than California, relatively fewer annuals in continental Chile in relation to California is not entirely unexpected (cf. Arroyo et al., 1988). California is more perfectly matched physiographically and climatically to central

Chile. Work is now in progress in order to determine whether central Chile contains proportionately as many native annuals as California.

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